At Home in the Post-Tsunami Landscape? A Case Study of Post-Disaster Housing in Aceh, Indonesia

by

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Abstract

On December 26th 2004 the second largest earthquake on record occurred off the coast of northern Sumatra, Indonesia, triggering tsunami waves reaching 15 metres above sea level. In Aceh, the northernmost province of Sumatra, more than 167,000 lives were lost and half a million people were left without shelter.

The international response to the 2004 Indian Ocean tsunami was unprecedented in terms of the amount of aid funding, much of this donated to aid organisations by private individuals. This funding enabled a major housing reconstruction effort in Aceh, with approximately 100 international non-government organisations (INGOs) involved in housing programs. The scale of the disaster combined with complex pre-disaster conditions in Aceh ensured that the reconstruction effort was conducted under difficult circumstances. Prolonged conflict between the Acehnese Freedom Fighters (GAM) and the Indonesian military had contributed to livelihood losses, high levels of poverty, low education rates, and low levels of trust in foreign organisations and the national government. Despite these challenging circumstances, more than 125,000 aid houses had been built in Aceh within five years of the tsunami.

While there has been research into the approaches and outcomes of post-disaster housing programs in Aceh, little is known about the experiences of those living in this housing. In response, this thesis reports on an in-depth qualitative case-study in one rural village in Aceh. The research was conducted with inhabitants of post-disaster housing built by two large international NGOs and was designed to give voice to their experiences, views and priorities. I employed a multi-method approach using interviews, visual elicitation and ethnographic observation to elucidate participants' housing experiences. Analysis of field materials was thematic and iterative.

I report four key findings. First, despite the disruption of the tsunami, participants had a strong, ongoing sense of place, one tied to their coastal location, which was an important source of political and cultural capacity. This finding supports efforts to ensure that housing reconstruction takes place *in situ* whenever possible.

Second, the design of the post-disaster houses and re-settlement plans challenged the rural livelihood practices of inhabitants. Both small plot sizes and relocation of some post-disaster houses away from livelihood sites created difficulties for participants. These factors particularly impacted on women's abilities to earn an income while caring for children. This finding supports integrated approaches to post-disaster aid that recognise the interdependence of housing and livelihood needs.

Third, participants were engaged in a dynamic process of adapting to post-disaster houses while also adapting these houses to their way of life. Participants were both grateful for the gift of these houses and acutely aware of how they altered the material and cultural fabric of their community. Through studying how participants inhabit post-disaster housing, it is possible to understand how their housing culture is not simply a historic tradition, but rather a living and dynamic expression of an ecology of relations involving cultural norms, values and place-based identities.

Fourth, participants had limited opportunities to influence the design and construction of post-disaster housing, although these were greater with one INGO than the other. The capacity of participants to influence housing reconstruction was strongly shaped by the relationships established between village leaders and on-ground INGO staff. As shown by their subsequent adaptation of post-disaster housing to better suit their sense of place and identity, participants had considerable underutilised capacity to participate in the planning, design and building of their new houses. Increased local participation in housing reconstruction is likely to ensure that intrinsic relationships between everyday living patterns, livelihood activities and built structures are re-established.

I conclude from this research that the process of providing post-disaster housing cannot be divorced from pre-existing socio-cultural, economic, political and environmental relationships. To disregard these relationships in the planning, design and construction of post-disaster housing disempowers local communities and challenges their long term viability. I thus advocate a relational approach to post-disaster housing provision which is attuned to cultural as well as material needs, and to their interactions. This approach involves five elements: respecting sense of place, re-establishing homes rather than building houses, creating adaptable houses, integrating landscape, livelihood and housing, and empowering community participation in the reconstruction of their houses.

Declaration of Originality

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.

Catherine Elliott

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1. Introduction

Just before 8am on Sunday the 26th of December 2004 one of the largest earthquakes of the last one hundred years occurred off the western coast of Sumatra, Indonesia (Titov et.al, 2005). Thirty kilometres below the ocean surface (USGS 2013), the Indian-Australian tectonic plate had slipped below the European plate (Figure 1.1). The earthquake rupture extended hundreds of kilometres northwest of the epicenter and was the longest earthquake rupture (in duration and extent) ever recorded (Ishii et.al 2005 and USGS 2012). There have only been four similar sized earthquake-tsunamis since 1900, however the 2004 earthquake-tsunami caused the most destruction in terms of loss of life (USGS 2012). The 2004 earthquake was initially measured as 9.0 on the Richter scale, but that figure was later adjusted to 9.3 (Ishii et.al, 2005). At magnitude 9.3 the 2004 earthquake is the second largest earthquake ever recorded (USGS 2012).

The release of such enormous energy from an under-sea eruption creates wave fronts in the ocean (Ishii et.al 2005), and in this case those waves travelled across the Indian Ocean, from Asia to Africa; tsunami waves were recorded in 14 countries (Figure 1.2). When the wave fronts struck land their height and inland run-up varied because of differences in sea floor resistance. Therefore the devastation wrought by the tsunami waves was not only determined by the distance between the land and the epicentre of the quake but also by the local coastal geography.

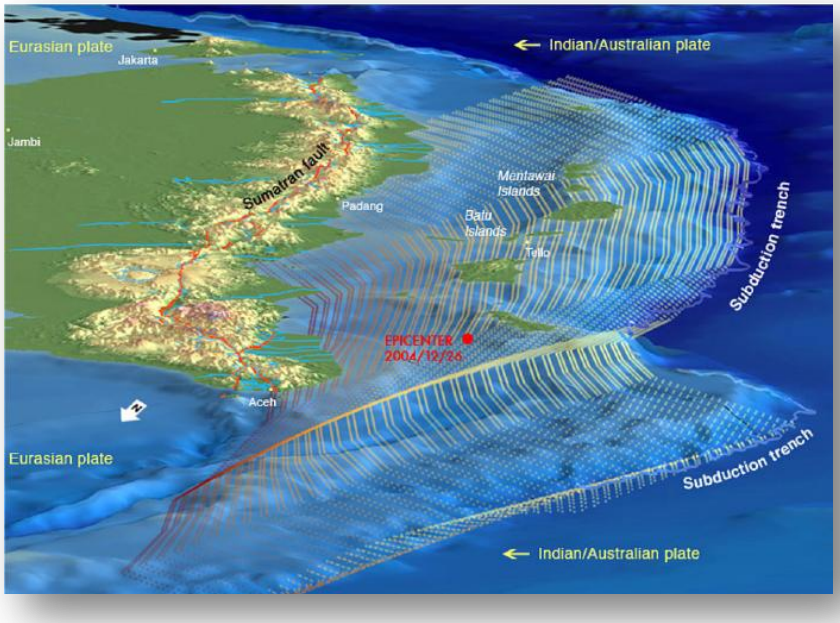

Figure 1.1 Map of the earthquake epicentre in relation to Aceh (Caltech University cited in Steinberg 2007, p.151).

Figure 1.2 Countries affected by the 2004 Indian Ocean tsunami (Wikipedia 2009).

Encircled as it is by 'the ring of fire', a zone of continuous tectonic activity, the Indonesian archipelago is no stranger to the environmental and social devastation wrought by earthquakes and volcanic eruptions. Yet the impact of the earthquake-

tsunami on December 26, 2004 was overwhelming and outside the range of living memory. The northern part of Sumatra, the Indonesian province of Aceh, was only 100km from the quake epicentre. In surveys conducted in the month following the disaster, Acehnese people reported the earthquake (or quakes) lasting for 15 minutes, during which time they were unable to stand or run, which left little time for escape before the waves reached land (Wilkinson, 2005). The highest single wave is thought to have occurred at Lhok Nga, measuring up to 13 metres above sea level (Wilkinson, 2005). At Lhok Nga, trees were stripped from the hills at 10-15 metres above sea level over one kilometre inland (Wilkinson, 2005). When wave fronts met inland they combined to form a new wave 20-25m in height (Wilkinson, 2005). Figures 1.3-1.8 show the physical devastation of urban areas of the capital of Aceh, Banda Aceh, following the tsunami.

Figure 1.3 Debris on a house in Banda Aceh (Boen n.d, p.5) (left).

Figure 1.4 The destroyed Department of Finance Office in Banda Aceh (Boen n.d, p.8) (right).

Figure 1.5 Debris in Banda Aceh (Boen n.d, p.9) (left).

Figure 1.6 The foundations of a porch and steps remain standing among the debris in Banda Aceh (Boen n.d, p.10) (right).

Figure 1.7 Two remaining houses in Banda Aceh (Boen n.d, p.10) (left).
Figure 1.8 Lhok Nga after the tsunami (Boen n.d, p.15) (right).

Aceh was the region most severely hit by the tsunami, with a staggering death toll of 167,000 people, including 40,000 people who remain missing, presumed dead (da Silva and Batchelor 2010). To put that figure in context, more than half of the estimated 300,000 casualties from the 2004 Indian Ocean tsunami were in Aceh (Brassad and Raffin 2011). Communities were disproportionately affected, for example in the capital city of Banda Aceh one quarter of the population died (Leitmann 2007). The west coast of Aceh was particularly affected, there entire villages were lost in the tsunami (Thorburn, 2007).

Coastal environments were redefined; beaches, fish ponds and rice fields lost or submerged, trees and plants were stripped from the hills (Griffin et al. 2013). Livelihoods, crops and livestock were lost. Water supplies and fields were contaminated with large scale debris and salt water. The devastation to the physical environment was extreme. All housing within half a kilometre of the shoreline was destroyed (Wilkinson 2005), with more than 120,000 houses lost and many more damaged (da Silva and Batchelor 2010). In some areas Mosques were the only remaining structures because they were built to higher building standards and with better materials than the housing and because of their open design which allowed waves to pass through the lower level. In total, 500,000 people (one eighth of the population) were registered as officially homeless across Aceh (da Silva and Batchelor 2010). In what follows, I briefly describe the immediate aid response in Aceh and the subsequent reconstruction effort, before detailing the research questions that have guided this study and providing a brief outline of the chapters to come.

1.1 Recovery and Reconstruction in Aceh

The loss of life, livelihoods and housing resulting from the 2004 tsunami elicited an unprecedented international humanitarian effort. Indeed, the 2004 Indian Ocean tsunami led to the third largest deployment of aid in history, and the largest for what was considered a 'natural' disaster rather than a conflict situation (Telford and Cosgrave 2007).

In addition to being one of the hardest hit regions, Aceh was also one of the least prepared for the influx of international aid. This was primarily because the province had been in a state of conflict with the Indonesian Government for almost 30 years (Aspinall 2009a). In addition to the violence perpetrated by both sides, prolonged conflict between the Acehnese Freedom Movement (*Gerakan Aceh Merdeka* or GAM) and the Indonesian military had significant social, political and economic consequences. The scale of the disaster forced the Indonesian Government to open the Acehnese border, which had been closed to foreign and some national aid due to the conflict. The prevailing conflict created a complex situation for the distribution of aid and for the working relationships between Acehnese people, Indonesians from other areas and foreigners. Eight months after the disaster struck, in August 2005, the first successful Memorandum of Understanding (MoU) was signed by GAM and the Indonesian Government in Helsinki (da Silva and Batchelor 2010).

Within weeks of the disaster occurring reconstruction was identified as a key priority for the Indonesian Government and international non-government organisations (INGOs). Bill Clinton the United Nations Special Envoy for Tsunami Recovery (Clinton 2005) described the reconstruction effort in Aceh as an opportunity to 'build back better'. This motto encapsulates the idea that post-disaster aid programs are not only an opportunity to build new physical infrastructure, but to strengthen the socio-political and economic resources of people so that they can better prepare for future disaster risks. It became a framing concept for reconstruction in Aceh, and was later adopted by INGOs working in Aceh and in other post-disaster situations.

Within a month of the disaster over 400 international aid organizations had arrived in Aceh, with over a quarter of these focused on housing reconstruction (da Silva and Batchelor 2010). The number and diversity of organisations involved in the

reconstruction process in early 2005 raised complex issues of coordination and cooperation between organisations. This complexity was increased by the fact that aid organisations had little or no prior experience or networks in Aceh. There was significant potential for competition between organisations for staff (local and foreign), resources, projects and funding (see Chapter 5). Some organisations who undertook housing programs had little or no experience building housing.

In April 2005, the Indonesian Government created an agency to coordinate reconstruction in Aceh, *Badan Rehabilitasi dan Rekonstruksi Nanggroe Aceh Darussalam*[1] (BRR) or the Agency for the Rehabilitation and Reconstruction of Aceh and Nias[2]. The BRR established minimum guidelines for the reconstruction of permanent houses. However, as a newly created agency who strove to hire local employees and building contractors, the BRR did not have the experience or institutional knowledge of large scale INGOs. Their role was further complicated by their decision to act as both a coordinating agency and a construction agency.

Despite these challenging circumstances within five years of the disaster more than 125,000 houses had been built in Aceh (da Silva and Batchelor 2010). The majority of post-disaster houses built in Aceh are replicas of the minimum standard design established by the BRR, which is a 36m^2 masonry house consisting of one multi-purpose room, two bedrooms and one bathroom. Housing projects do differ, however, in terms of construction quality, materials and location. Although there was community participation in land mapping, the majority of post-disaster housing programs did not involve the intended inhabitants in the land-use planning, design or construction of their houses (exceptions to this are discussed in Chapter 5). It is in this context that this thesis reports on a qualitative study of the experiences of one rural community in Aceh, Indonesia.

1.2 Thesis premise

The 1970s saw the first large scale programs by national Governments and aid organisations to re-house people following disasters. Some of those programs

[1] At the time the province of Aceh was known as Nanggroe Aceh Darussalam (NAD).
[2] Nias, an island on the West Coast of Aceh was hit by the 2004 Indian Ocean tsunami as well as earthquakes in 2005.

involved the resettlement of people away from their original location and into a one-size-fits all housing model replicated on a large scale. Those programs have been critiqued for their lack of integration with basic services and facilitates and their distance from inhabitants' livelihoods. Researchers (Davis 1981; Kreimer 1978 and 1980; Oliver 1987) critiquing those programs argued that housing needs are inter-related with other needs such as clean water and sanitation, health services, transport and job opportunities. Those researchers recommended that intended inhabitants should be able to participate in housing programs.

Twenty years later, in the 1990s, there was growing recognition that disasters were not isolated, extreme events, but that pre-disaster conditions such as economic, social and political contexts influenced the potential for disasters to occur. The number of people affected by disasters and the cost of responding to them was also increasing, in addition researchers became aware that disasters disproportionately affected people in developing countries (Bankoff, 2001; Schilderman, 2004). Therefore, disaster aid programs were not simply responding to the loss of physical infrastructure, they were an opportunity to address existing inequalities and challenges within communities vulnerable to disaster.

However, changes to disaster paradigms have failed to challenge the nature of housing aid. Predominantly aid programs attempt to implement a housing model which is intended to suit any and every context (see Chapter 2 for further discussion and a description of several notable exceptions). In this thesis I will argue that this approach to post-disaster housing arises through a particular universal housing paradigm. This paradigm ignores the housing culture and living patterns of those who have been affected by disaster. If aid programs are to be transformed, this understanding of housing needs to be addressed.

Post-disaster research is currently weighted towards analysing the roles, approaches and practices of aid organisations and governments responsible for building post-disaster houses. There is limited research into how people inhabit post-disaster housing or the experiences of the reconstruction process for those inhabitants. This thesis is designed to address this gap in the literature. Through a detailed qualitative case study of housing reconstruction and inhabitation in Aceh, I seek to demonstrate how housing is not separate from the socio-cultural and environmental conditions in

which it was created. Every aspect of a house from the form, layout, materials and design affects the day to day lives of inhabitants. A house is not simply a physical object, but an expression of socio-cultural identity, world views and belief systems. Housing is both the product and the source of complex material and social relations. It follows, then, that the provision of houses may have had profound political, cultural and environmental effects.

Conventional measures of disaster have often portrayed a singular impression of the loss and vulnerability of the people affected by the disaster by quantifying disasters according to the number of lives and houses lost and the land area affected. While this impression may be useful for raising aid funding, this limited understanding of the contextual dynamics of the disaster may actually inhibit post-disaster recovery. In particular, emphasis on loss and vulnerability that obscures the agency and resourcefulness of affected populations has the potential to lead to disaster responses that further disempower these populations.

My research offers new insights for housing and disaster researchers. It is the first to consider the experiences of inhabitants of post-disaster housing in a rural village in Aceh following the 2004 Indian Ocean tsunami. The specific findings are unique, relating to one case study village. My application of ethnographic and qualitative field techniques in a post-disaster context, and my concern for sense of place, home and identity in relation to houses, contribute to the creation of new possibilities in post-disaster research.

1.3 Research Question

This research was designed to learn from Acehnese people about their housing experiences. I selected a small case study village to enable in-depth qualitative field research. I began the fieldwork with the aim of responding to the following research question: What are the effects of post-disaster housing for inhabitants in Aceh, Indonesia? From this question the interviews were designed around three sub-questions:

How have communities responded to the housing built for them?

How do people inhabit post-disaster housing?

How have they adapted and adapted to post-disaster housing?

In investigating these questions I drew on literature of post-disaster responses. From that literature I identified three dominant approaches to post-disaster housing; technocratic, vulnerability and community resilience. I examined how participants experienced those approaches and to what extent they were able to meet the participants needs. In response to the challenges and oppourtunities for housing aid identified through the participants narratives I offer an alternative approach which is more participatory in nature.

1.4 Chapter Outline

Chapter 2, Post-Disaster Housing, considers housing in the context of international aid following disasters. This chapter provides a background for analysing the aid response to the 2004 Indian Ocean tsunami in the context of other disasters and in the socio-political context of international aid efforts. I identify three disaster approaches which are illustrative of the dominant understandings of disasters and which shape how post-disaster aid is delivered. In the final section, I argue that these dominant approaches to reconstruction post-disaster assume a universal one-size-fits-all housing model. This chapter provides an international context for the question of how the 2004 tsunami triggered an international effort to build housing in Aceh.

Chapter 3, Housing Ecology, explores housing as a relational phenomenon, one produced as much by socio-cultural relationships as by physical materials. I highlight the diversity of characteristics, interpretations and everyday practices in houses. The aim of this chapter is to show that the model of universal housing aid arises through a particular housing paradigm, rather than a particular understanding of disasters. I argue that the idea of universal housing that can be built for anyone, anywhere, is false because houses are inseparable from the everyday lives of their inhabitants. The needs of the inhabitants themselves are integral to the performance of houses. In the final section I provide an introduction to housing culture in Aceh prior to the 2004 tsunami.

Chapter 4, Research Design, outlines the research design, beginning with methodological questions of ontology and epistemology. I describe the qualitative research design and how ethnography informed the research. I also describe why I chose a case study approach and the criteria I employed to choose the site, how I

approached research participants, the research methods I used and my decision to work with Acehnese research assistants. I then outline my iterative approach to data analysis.

Chapter 5, Aceh Case Study, sets the scene for the thesis by exploring the immediate aftermath of the tsunami and the conditions in which International aid institutions were operating. I explain the post-disaster governance framework and position the case study village in the context of other examples of post-disaster housing projects in Aceh.

Chapter 6, Home in the Post-Tsunami Landscape, is centred on the participants' experiences after the tsunami. I explore their decision-making, particularly as it relates to their sense of place.

Chapter 7, Relocation and Reconstruction: Transformations of the Village Landscape, considers how housing reconstruction was part of a wider landscape transformation that has affected livelihoods, community life and everyday activities in the village.

Chapter 8, Disruption and Adaptation: Everyday Life in Post-Disaster Housing, considers how participants inhabit post-disaster houses. I consider internal spaces, transition spaces and outdoor spaces, encompassing practices of domestic life and social interactions.

Chapter 9, Leadership Capacity: Two Stories of Reconstruction, explores how participants felt they were involved in and/or excluded from the housing reconstruction process, how they interacted with the two housing INGOs and the role of leadership in this process. This chapter concludes that the village has been transformed through the housing reconstruction process in which two distinct groups of houses were built.

Chapter 10, Towards an Relational Approach to Post-Disaster Houses, brings the lessons learned from the fieldwork into the wider context of housing literature. I question the dominant view of post-disaster housing as an instrument in disaster recovery. I argue for an alternative, relational approach to post-disaster housing; one which takes housing to be intrinsic to the material and cultural fabric of people's

everyday lives. I argue that the intended inhabitants of post-disaster housing are best placed to understand the complex needs that housing is required to meet in any one context, and that therefore they must play a decisive role in the planning, design and construction of post-disaster housing (see Table 10.1).

The final chapter, Chapter 11, offers a summary of the key findings of the thesis and suggests ways of acting on the relational approach to post-disaster housing advocated in Chapter 10.

2. Post-Disaster Houses in the International Context

2.1 Introduction

The previous chapter provided a brief description of the 2004 Indian Ocean tsunami and its impact on Aceh, Indonesia. At the core of this thesis lies an in-depth study of post-disaster housing in one village in Aceh. To understand what occurred in that village following the 2004 Indian Ocean tsunami, it is necessary to contextualise this case study in relation to other disasters and the dominant approaches that shape international aid practices. In this chapter, I explore the international context in which post-disaster houses are built and distinguish between three dominant disaster approaches that offer insights into the underlying assumptions that drive international aid practices. Those approaches are framed as technocratic, vulnerability and community resilience approaches. I explore how these approaches shape the design of post-disaster housing programs, but not necessarily the design of post-disaster houses. As a lead-in to Chapter 3, in the final section of this chapter I introduce the idea that current approaches fail to challenge an underlying paradigm that housing, as an isolated, physical product, can be a solution to socio-political and economic hardship brought about by disasters.

2.2 Post-Disaster Shelters, Houses and Resettlement

Housing has become a core component of post-disaster aid. In 2004, half the World Bank's post-disaster funding loans were allocated to housing reconstruction (Freeman 2004). The quantity of housing affected by a disaster has become a key measure of the size and scale of the event. For example, in their 'Handbook for Reconstructing after Natural Disasters', Jha et al. (2010, p.357) developed a matrix of disaster project features. The first category in the matrix measures the scale of the disaster, expressed as the numbers of dead and injured and the number of houses destroyed or damaged. In the same earthquake/tsunami which affected Aceh in 2004, in Sri Lanka '500,000 people were displaced and 114, 069 houses were damaged or destroyed' (Jha et al. 2010, p.357). In the Pakistan earthquake of 2005 3.5 million people were homeless and 462,363 houses were destroyed and 109, 956 damaged (Jha et al. 2010, p.357). In the Gujarat earthquake in India in 2001 '600,000 people

were displaced or homeless and 348,000 houses were destroyed and 844,000 damaged as per initial survey' (Jha et al. 2010, p.357). In Bangladesh, Alam (2010 p.242) writes that '[s]ince 1970, the country has lost an average of 0.3 million houses fully and 0.5 million partially per year as a result of flood and cyclone'. There were 12 major earthquakes in Turkey between 1970 and 2003, each one destroying between 3,000 -9,500 houses (Arslan and Johnson 2010, p.264). In 1999, Turkey's largest earthquake heavily damaged 50,000 houses and left 655,000 people homeless (Arslan and Johnson 2010, p.264). These figures provide context for the impact of the 2004 Indian Ocean tsunami in Aceh, where 500,000 people were without shelter and 120,000 houses had been destroyed (da Silva and Batchelor 2010).

In 1982, the United Nations Disaster Relief Coordinator defined post-disaster housing as responding to urgent, temporary and permanent shelter needs (Baradan 2008). Quarantelli (1995) expands this definition to include four phases: emergency shelter; temporary shelter; temporary housing; and permanent housing. Quarantelli (1995) is not suggesting that the housing process is linear or that all people experience all four phases. He is arguing that it is possible to identify four spaces in which people have different housing needs. For example, people's housing priorities during the emergency stage of a disaster may be vastly different from their housing priorities 1 to 2 years after the disaster occurred. Quarantelli's (1995) argument identifies durability as a key distinction between emergency shelters and permanent housing.

Schilderman (2010) argues that major earthquakes in Peru and Turkey in the 1970s saw the first attempts by governments and aid organisations to build post-disaster housing on a large scale. These attempts have received criticism (see Oliver 1987) for their lack of consultation, for relocating populations irrespective of job opportunities, transport and other services, and for their uniform design. These houses have been abandoned, not because people have somewhere better to go, but rather they were forced into insecure, dangerous housing situations through a lack of alternative options. While abandoned houses indicate program failure, occupancy rates do not provide any information on why the program failed and what the implications of this are for its intended inhabitants. Since the 1970s, post-disaster housing programs have been dominated by large-scale resettlements of people away from their pre-disaster location, where one house design is repeated as a 'one-size-

fits' all housing approach. Although there have been cases where organisations have involved the intended inhabitants of the houses, these have failed to become the norm (see for example, Kreimer 1978).

Despite the quantity of housing destroyed by disasters each year and the amount of funding directed towards reconstruction, there are no global standards for how post-disaster programs should be managed. Saunders (2004) highlights a central inconsistency in post-disaster housing programs; that for many organisations tasked with managing the reconstruction, housing and shelters are secondary, rather than primary goals. Saunders (2004) argues that there is a lack of clear direction for how aid organisations should approach shelter, housing and resettlement programs. For example, in the 2005 Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (UNISDR 2005), shelter and housing are only mentioned once, each in passing. The Sphere standards are guidelines developed by and for NGOs in the mid 90s to standardise their response to disasters. While Sphere provides useful guidelines such as an emphasis on the rights and participation of those affected by disaster, as Schilderman (2010) highlights, it is primarily directed towards emergency shelter rather than housing.

Between the stages of emergency shelter and housing there is necessarily a transitional phase. During this transition those affected by disaster attempt to build shelters, seek temporary accommodation or seek refuge with family and friends. However there is variation in whether and how aid organisations provide support for people during this period. Johnson (2007b) attributes the challenges of temporary housing programs to a lack of pre-disaster planning. Good planning could reduce the long delays in implementing temporary housing, the cost of those programs and the implementation of inappropriate designs. However, it is also difficult to distinguish between housing and shelter or between temporary, transitional or permanent housing. What does it mean to discuss temporary housing for communities whose pre-disaster housing could also be classified as temporary (Kreimer 1978)?

Jha et, al. (2010) have argued that the distinctions between shelters and houses is very different from the on-ground situation of those affected by disaster. Those affected by disaster may be unfamiliar with aid programs and the type of post-disaster housing aid available. In the example provided by Kreimer (1978) from Lice

in Turkey, 1500 permanent houses were built before the temporary housing had arrived in the country. Even in countries such as the United States the transition from emergency shelter to permanent housing can be *ad hoc* (Levine 2008).

Ganapati (2012) highlights an absence of research literature on how to measure the effectiveness of post-disaster housing programs. Due to this gap in the literature, Ganapati (2012) argues that the success of post-disaster housing programs is too often measured by aid organisations and governments according to the quantity and speed of construction. Ganapati's (2012) research in Turkey following the 1999 earthquake suggests that the inhabitants of post-disaster housing evaluate the houses according to their design, size, location and proximity to services. The participants in Ganapati's (2012) research suggest that participation in the planning and design of post-disaster houses as well as equality in the provision of aid were more important considerations than the speed of housing provision. Policies which emphasise a fast return to the status quo ignore the need to reduce inequalities and vulnerability and can increase stress and exacerbate inequalities (Bolin 1985; Régnier et al. 2008).

Some argue that the sooner people have permanent housing the sooner they are able to resume everyday life (see Murat et al., 2010). Karunasena and Rameezdeen's (2010) research of post-disaster housing strategies in Sri Lanka refutes the claim that post-disaster programs implemented by governments or aid organisations (donor-driven) are necessarily easier or faster than those driven by the land owners (owner-driven). However, conditions in transitional shelters and how people are involved in the rebuilding process also have important health implications. The physical process of rebuilding housing can also be psychologically important to peoples' recovery after disasters (Duyne Barenstein and Pittet 2007). The quality of the built environment can also have significant impact on the health of children and adults living in the house; Cattaneo et al. (2007) found that upgrading floors from dirt to cement had significant health benefits for the household which extended to their ability to attend school and work.

Similarly the number of times people have to relocate following a disaster and the extent of damage to housing and infrastructure in their communities affects peoples' emotional recovery (Bolin, 1985). Uscher-Pines's (2009) review of the literature on

disasters, relocation and health found that eight of ten studies on the relationship between relocation and mental health found a relation to psychological morbidity.

Kreimer (1978) argues that post-disaster housing practitioners often isolate the need for housing from other pre-existing conditions. In contrast, Kreimer (1978) argues that post-disaster housing is an integral part of an ongoing housing situation. Housing is part of the socio-economic context, physically through infrastructure of water and energy supply and through socio-cultural relationships (Kreimer 1978; Lang 2008). Several critiques (Davis 1981; Duyne Barenstein and Pittet 2007; Kreimer 1978) of large scale post-disaster housing programs which implement a one-size fits all approach have argued that there is no one definition of adequate housing. Houses are rendered appropriate or inappropriate within the socio-cultural, political, economic and environmental contexts in which they are built. As Davis (1981) argues, for some people housing may not be their primary priority, but may be just one part of competing needs to re-establish livelihoods or landownership.

2.3 Three Approaches to Post-Disaster Programs

To understand post-disaster practice I identify three dominant approaches found in contemporary post-disaster literature. These approaches are constituted by the policies, plans and practices used by government and non-government organisations in their responses to disasters. While I discuss these approaches in relation to different time periods, each is present in contemporary post-disaster practices. These approaches arise from diverging understandings of disasters as either random events requiring technical solutions, events stemming from vulnerability characteristics of the affected population, or environmental changes which can be remedied through pre-emptively building the capacity of affected peoples. I have termed these three approaches ‘technocratic’, ‘vulnerability’ and ‘community resilience’. In the following sections I will discuss how these three approaches are constituted in contemporary post-disaster literature.

2.3.1 Technocratic Approach

In disaster literature, a technocratic approach is evident when the disaster is thought to have occurred because of a deficit in information or technical ability. In other

words with the 'right' knowledge and expert advice the disaster could have been prevented. The technocratic approach emphasizes the provision of physical, material or infrastructure solutions through technical expertise (Zahran et al. 2008). The people affected by the disaster are thought to lack either knowledge or infrastructure which would have reduced their vulnerability to disasters (Régnier et al. 2008; Zahran et al. 2008). In their 'Handbook for Reconstruction after Natural Disasters' Jha et al. (2010, p.362) offer the following definition of disaster:

> **Disaster:** A situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering.

This definition portrays disasters as a disruption to 'normal' conditions. If disasters are understood to be isolated incidents then there is limited value in understanding the pre-disaster conditions of the people affected by disaster. Instead, the focus is directed towards solving the problem created by the disaster. In other words, if the disaster has destroyed infrastructure, then external aid agencies, by providing new infrastructure, can assist those affected by the disaster to return to everyday life.

The technocratic approach is evident in disaster programs which are **donor-driven**, whereby housing solutions are provided for those affected by a disaster with little to no input from the intended residents. The technocratic approach draws heavily on international expert communities to drive a top-down process of decision-making and disaster response in which local people are conceptualized as lacking in any resources that could contribute to the reconstruction process. One example is the Turkish Government's response in the early 1970s to an earthquake that left 70,000 people without housing (Oliver 1987). Initially, the program run by the Turkish Government appeared successful, as those affected by the disaster were provided with a housing unit within 2 years of the disaster occurring. However, 12 years later when Oliver (1987) researched the affected villages, he discovered that the houses provided were either largely abandoned or they were inappropriate for the everyday lives of the inhabitants. Where the housing was still inhabited, Oliver (1987) noted that, because the houses were inadequate for the needs of the inhabitants, they had adapted them by adding extensions that had weakened the structural integrity of the

buildings, thereby increasing the risk of damage and collapse from future earthquakes. The houses that had been abandoned were either too far from the inhabitants' places of work, or they lacked basic services such as water or sanitation which made them uninhabitable (Oliver 1987).

Several cases of large populations forced to flee conflict and disaster in Rwanda, Sudan and Burundi in the 1990s led to large scale shelter programs in sites removed from the original locations of those affected (Saunders 2004). However, as Saunders (2004) argues, these cases should not be the basis for displacing and resettling those affected by disaster. Duyne Barenstein and Iyengar (2010) discuss a housing relocation program in India following the Latur earthquake in 1993. The disaster response by international aid agencies was centred on relocating those affected to 'grid patterned endless rows of concrete housing' (Duyne Barenstein and Iyengar 2010, p.170). Duyne Barenstein and Iyengar (2010) critique this approach, arguing that this housing was built with disregard for the building materials and skills of the local masons. The involvement of local people was limited to several meetings where the house designs and layouts were shown to the communities for approval. Thus the future inhabitants of the houses were excluded from decisions regarding the location, building materials, design and village mapping (Duyne Barenstein and Iyengar 2010, p. 171):

> Not only was the opportunity missed to improve resilience by enhancing local building capacity, but the excessive reliance on industrial building materials led to a tremendous waste of financial and material resources; the approach led to a high environmental impact and the loss of valuable agricultural land.

This program failed to provide safe housing for those affected, and the housing was too far from the inhabitants' livelihoods, forcing them back to their original land with limited resources to rebuild. Following this experience, in 2001 when an earthquake struck another part of India, widespread public consultation revealed that 90% of those affected rejected the notion of relocation and would prefer compensation to rebuild in their own location (Duyne Barenstein and Iyengar 2010). In a separate example from Nicaragua, Kreimer (1978) writes, those that could afford to live in the post-disaster housing chose not to on the basis that it was too uniform and carried a stigma of aid housing.

Another example which critiques the consequences of relocating people away from their livelihoods is Dikmen's (2011) research in Turkey. Dikmen (2011) studied occupants' perceptions of post-disaster housing in Turkey following two earthquakes, one in 1995 and the second in 2000. In one case 1,234 houses (and 873 cattle-sheds) were built, the majority of which were occupied at the time of Dikmen's research. In this case study although some houses were relocated, they were relocated close to their pre-disaster location. In contrast, in the second case study of the 1,221 houses built only 40 were occupied two years after they were completed, some of the houses had been relocated away from livelihood sites and to the top of mountains (much cooler conditions than the households were used to) (Dikmen 2011). On average residents in both case studies preferred their houses prior to the disaster which were designed by members of their community, than the post-disaster houses. What is interesting about Dikmen's (2011) research is that the second case study was completed six years after the first which suggests that the Ministry for Public Works and Settlement (of the Turkish Government) which was responsible for both projects had two different approaches to rebuilding post-disaster.

Relocation is generally driven by two factors. First, the risk of the hazard reoccurring is prioritized above other risks people may face such as insecure or unstable livelihoods (Davis 1981). Second, the large number of people requiring housing is used to justify a decision to relocate people away from the source of the disaster to a large uninhabited area where new housing could be built (Schilderman 2010). Critics of technocratic approaches to disaster response (Davis 1981; Régnier et al. 2008; Schilderman 2010) argue that people do not simply live in 'at risk' locations because they lack knowledge about the risk, rather that risk is weighed against a range of other risks and concerns that may be more immediate. Twigg (cited in Schilderman 2010) argues that the immediate needs of the affected population may force them to live in locations which they understand are dangerous. However, other daily risks such as poverty mean that they have no alternative but to remain in that location. Schilderman (2010) argues that without a fuller understanding of the conditions preceding the disaster, it is not possible to understand the circumstances and choices of the affected populations. Aid programs which only address one threat, such as a major disaster, may only 'band aid' over more immediate risks and negatively impact on the ability of the affected populations to survive.

One example of an alternative technocratic approach that did not involve relocation was undertaken to reduce flood risk in the Indonesian capital of Jakarta. Between the late 1960s and early 1970s a program titled the *Kampung* Improvement Program (KIP) was underway in Jakarta, the capital of Indonesia (Oliver 1987). *Kampung* translates to village, in this instance the program was designed to improve urban villages within Jakarta where migrants to the city had built shanty slums. This program was prompted by the realization that the vast majority of Jakarta's residents lacked basic water, sanitation and electricity. While this program had not been instigated by one disaster, the urban villages were plagued by yearly flooding lasting weeks at a time. Oliver (1987) provides an overview of the KIP's improvements in water supplies, drainage, road and pathways, as well as community programs to build schools and health clinics. The approach used in Indonesia differed to that employed in Turkey because it was an integrated approach, which considered the services and facilities needed for a sustainable, habitable environment for those living there. In providing residents with infrastructure and basic services they were also provided with legitimacy. Oliver (1987) writes that the improvements in their streets and neighbourhood led residents to invest in improving the quality of their houses. However, Oliver (1987) points out, that despite the success of this program in integrating services and improving the quality of life and health for residents, it remained a 'top-down' approach. Those implementing the program had a working relationship with the community leaders but did not seek the views or priorities of the inhabitants. The success of the KIP arose because those implementing it understood the importance of a holistic approach to meeting the residents' needs. In addition, the KIP respected that the residents had valid needs which for them outweighed the risks of living in a location that frequently floods. This second aspect is unusual in donor-driven responses to disasters which were often, though not always, characterized by relocating residents away from the source of the disaster.

The technocratic approach to disasters discounts the need to involve people in their own recovery. When technical expert knowledge is valued, little space is made for community engagement or participation. Experts are able to decide and plan what is best for the affected people without consulting or working with them. This technocratic approach is described by Enarson (1998) as 'disembodied' as it ignores the roles of those affected by disaster in their own recovery. This approach also

assumes that all people have similar needs. The legacy of colonialism is also evident in this approach, with aid agencies operating from former colonial powers such taking it upon themselves to teach or instruct 'under-developed peoples' (Bankoff 2001). The technocratic approach discredits the capacity and priorities of those affected by the disaster.

2.3.2 Vulnerability Approach

While the technocratic, 'top down' approach to disasters remains pervasive, there have always been cases which have challenged its dominance. Social research on disaster situations has been growing since the 1970s (Davis 1978 and 1981). Early research (e.g., Davis 1981) emphasized the ways in which disasters affect communities unequally and are located disproportionately around the world (Bankoff 2001; Zahran et al. 2008). In *Shelter After Disaster* Davis (1978) provides extensive case study research to support his argument that those affected by a disaster must be involved in the reconstruction of their built environment. He (1978) asserts that post-disaster training programs can be an important oppourtunity for reducing peoples vulnerability to future disasters. Several studies undertaken in the 1970s utilized the concept of vulnerability to explain how some people are disproportionately affected by disasters as a result of social or economical disadvantage, and not just as a result of physical location (Blaikie et al. 1994; Davis 1981). Kreimer (1978) and Davis (1981) were also concerned with the delivery of aid; critiquing how and why aid is provided, how the policies and priorities of aid organisations affect the delivery of aid, and the impact of aid on communities.

Since the 1970s, as the number of people affected by disasters has increased exponentially, a changing understanding of the conditions contributing to disasters has emerged (Bankoff 2001; Blaikie et al. 1994; Davis 1981; Schilderman 2004). For example, Freeman (2004, p.428) states that 'since 1980, 141 million people have lost their homes in 3559 natural hazard events. Of those who lost housing, 97.7% lived in developing countries'. A key factor in this change was the growing awareness that some populations are more at risk from disasters than others (Bankoff 2001; Blaikie et al. 1994; Zahran et al. 2008). Populations within countries as well as entire regions of the world were recognised as more vulnerable than others. Bankoff (2001), for example, points out that during the 1990s only 1% of those affected by disasters

lived within North America or Europe. This figure is not simply a reflection of the fewer instances of hazards in those areas but also because the pre-existing conditions in those places prevent disasters occurring (Bankoff 2001).

The disproportionate way in which disasters affect people in different regions suggests that these events are not solely environmental. The term 'natural disaster' implies an event that is purely physical or environmental, and yet disasters are complex phenomena, their potentiality relies heavily on the pre-disaster conditions of those affected. 'Natural' implies that disasters are inevitable, arbitrary or purely environmental and thus distinct from people's actions (Bankoff 2001). A 'natural disaster' does not arise from a purely environmental event, nor occur outside the realm of human action (Bankoff 2001). The triggers for a disaster are complex and cannot be clearly separated into human and environmental – to do so would hide the role of human actions as a causal factor in creating the conditions for disasters to occur.

Complex pre-disaster conditions such as personal and social capacities, economic conditions and physical infrastructure affect the potential for disaster (Morrow 1999; Paton and Johnston 2001; Zahran et al. 2008). Hazards themselves do not inevitably lead to disasters (Christoplos et al. 2001; Schilderman 2004). The potential for a hazard, such as an earthquake, to result in disaster is determined by the contextual capacities and circumstances of those living in that location. The differentiation of hazards and disasters has led researchers such as Bankoff (2001) to move away from the use of the term 'natural disaster' because it implies that disasters are unavoidable, arbitrary or distinct from human actions (Bankoff 2001). Schilderman (2010, p.23-24) states:

> disasters of similar magnitude have caused far less death and destruction in the developed than in the developing world. It is poverty, environmental degradation, rapid population growth and poor governance that make Third World populations more vulnerable, and cause natural hazards there so much more often to result in major disasters.

Although disasters overwhelmingly affect certain parts of the world more than others, it is important not to interpret vulnerability to disaster as an inherent

weakness of a population of people. Disasters are not simply the effects of natural hazards, but the effects of natural hazards within the context of global political relations. Thus, the extent to which local capacity is overwhelmed, or how much external assistance is required or requested, is determined jointly by the nature of the disaster and the socio-political context.

The growing awareness of vulnerabilities prompted researchers and practitioners to question why some people are more at risk than others (Davis 1981). Poverty is understood to be the primary cause of vulnerability (Keys et al. 2006; Kim 2012; Schilderman 2004; Zahran et al. 2008). Schilderman (2004), for example, describes how poverty or those who are economically disadvantaged are more vulnerable to disasters than those able to afford to remedy their situation. In a quantitative study of exposure to disasters, Kim (2012) found that both the numbers of people affected and the exposure to disasters is greater for poor people. Economic vulnerability is not simply related to the amount of capital available following a disaster but also the capacity of those affected to recovery their livelihoods following a disaster (Zahran et al. 2008).

Although poverty continues to be a key factor in understanding vulnerability, other vulnerabilities have been identified including age, gender, level of education, disability and ethnicity (see Wait 2000; West and Orr 2007). Scholars such as Morrow (1999), Paton and Johnston (2001) and Zahran et al. (2008) have argued that the conditions for disaster are highly dependent on personal and social capacities, economic conditions and physical infrastructure.

In the late 1990s, Enarson (1998) critiqued the lack of understanding of gender in disaster research. She argued that there was a lack of female participation in the aid sphere, and an ignorance of the difficulties and challenges of women affected by disaster. For example, children in developing countries are at risk of trafficking, and women are at risk of domestic abuse and forced marriage (Keys et al. 2006). Gender mainstreaming programs, in an effort to redress the gender imbalance, were targeted at assisting women recover from disaster and recognised that men and women have differing needs. In practice, aid programs adopting this approach have encouraged women to equally participate in community meetings, focused on supporting female-

owned home industries and small businesses, and supported female-headed households and women in governance roles.

However, Ruddock (2007) makes an important distinction when she argues that while in general women are disproportionately vulnerable to disasters, this is not intrinsic to their being women. Rather, it is because of pre-existing norms and practices: 'vulnerability is not an inherent trait that results in women suffering disproportionately during disasters, but [it] is indicative of societal structure and the nature of gender relations' (Ruddock 2007, p.77). Ruddock (2007) and Enarson (1998) argue that stereotyping women as either helplessly vulnerable, or assuming that their capabilities are confined to the domestic sphere, at best reinforce existing stereotypes and at worst disempower both men and women who are forced into ways of life that may be foreign to them. Enarson (1998), Morrow (1999) and Ruddock (2007) argue that not only is this depiction of women's capabilities and vulnerabilities false, it devalues the actions and voices of those who most need support. Ruddock (2007) argues that such approaches can further disadvantage people who are already at risk. Characterising vulnerability according to one characteristic such as gender, ethnicity or age fails to appreciate the diversity among people and their capabilities.

Unfortunately, the term vulnerability has also been used, not to challenge the technocratic disaster approach, but as a justification for it. Enarson (1998), Morrow (1999) and Ruddock (2007) all question the use of the term vulnerability as it has been adapted to render those affected by disaster as weak or incapable of assisting themselves. Entire populations have been rendered helpless because of their ethnicity, age, disability, poverty or education level. The potential damage of such aid programs lead some critics to refer to aid programs as the 'second tsunami', likening the negative, disruptive effect of some aid programs to the initial damage done by the disaster itself (Brochard cited in Boano 2009).

Morrow (1999) argues that it is not appropriate to label communities or parts of communities as vulnerable if this is then used as the justification for excluding them from participation in aid programs. While it is vital to recognise that people have different capacities, Morrow (1999) argues that vulnerabilities should be considered as part of strategies to engage and empower people. She argues that for communities

to be able to assist themselves they must be actively and equitably involved in the decisions which affect their lives – a proposition that I consider further in Section 2.2.3. The central weakness of the focus on vulnerabilities is that aid is directed towards what are perceived to be people's weaknesses, without considering their capabilities. For example, an older, disabled, female would be considered more vulnerable than a young, able bodied male. This assumption de-values the capabilities of the female while also ignoring the vulnerabilities of the male. Instead of understanding women's vulnerability as a weakness and a reason to exclude women from reconstruction planning and decision making, it should be the basis for their inclusion, so that such vulnerabilities can be understood and mitigated in the future. Vulnerability is seen to be compounded, meaning that those with more than one indicator of vulnerability, such as a woman with a low level of education, or an older person with a disability were considered to be more vulnerable than someone with one indicator of vulnerability. The identification of vulnerability is limited because there is no consideration, for example, that a man of ill health may be more vulnerable than a woman in good health, or an older person of high education may be less vulnerable than a young adult with little education. There is also no recognition that someone with a physical disability is not inevitably more vulnerable than an able bodied person.

Morrow (1999) argues that if communities are to be resilient, they must have active, equitable participation at a grassroots level. If gender bias in disaster responses is not challenged, then assumptions about people's capacities based on their gender continue, which at best reinforces existing inequalities and at worst create new ones. Such issues occur when relief organisations restrict women's roles to the domestic sphere, care giving and household economies, particularly when in practice women are key to community resilience and are actively involved in disaster recovery (Enarson 1998). Gender-based assumptions also have negative ramifications for men who may be primary care givers for children after a disaster or who have been excluded from mental health support. Such assumptions mean men are not given the same type of support that women in their situation may receive. In some cases this lack of support contributes to the rise in domestic violence and forced marriages following disasters (Enarson 1998). Therefore while understanding vulnerabilities is useful it is insufficient without an understanding of capacities (Schilderman 2010).

2.3.3 Community Resilience Approach

In contrast to the technocratic or vulnerability approaches, which are concerned with how aid organisations can provide for those affected by disaster, the resilience approach considers the ongoing capacities of those affected by the disaster (Brassan and Raffin 2011). This approach is variously discussed as people-centred (Schilderman 2010), owner-driven (Duyne Barenstein and Iyengar 2010), participatory (Aubrey 2010) and community-based disaster preparedness (Allen 2006) and capacity building (Fanany et al. 2009). I have chosen to term this approach 'community resilience' because this places the emphasis on the capacities of those affected by the disaster. Arlikatti et al. (2010, p.705-706) offer a useful definition of resilience in the context of 'natural hazards': '[r]esilience is defined as the ability of social systems, and the bio-physical systems upon which they depend, to resist or absorb the impacts (such as death, damage and losses) of natural hazards, to rapidly recover from those impacts and to reduce future vulnerabilities through adaptive strategies'. The key to this approach is for those affected by the disaster to be at the centre of their own recovery so that not only the physical infrastructure, but the social-capital, leadership capacity and skills of those affected are built for the future. This approach emphasizes not only what people can be taught, but also what skills and capacities they already have to manage disaster situations.

Critics of dominant technocratic approaches to disaster response writing in the 1970s and 80s, such as Davis (1981), Kreimer (1978) and Turner (1972; 1976) used case studies of alternative approaches which illustrated the importance of involving people in their own recovery. This critique gained momentum in the 1990s with the United Nations declaration of the International Decade for Natural Disaster Reduction and the 1994 Yokohama World Conference on Natural Disaster Reduction, followed in 2005 by the international endorsement of a preventative approach to disasters with the 'Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters' (Djalante and Thomala 2012, p.167). The concept of Disaster Risk Reduction meant that all nations had a responsibility to prepare and assist those at risk of disaster. This concept contrasts the earlier technocratic understanding of disasters as apolitical natural events to which people voluntarily respond through a sense of good will.

Kreimer (1980) discusses two examples of agencies working to build the resilience of populations affected by disaster. She writes that following a major earthquake in Guatemala in 1976, the approach of both the Canadian Government and Oxfam was centrally focused on building the resilience of those who had lost their housing. The Canadian Government approach involved working with small teams of individual households to build their own housing. Those teams were closely monitored to ensure that the houses were built to standard. This approach is known as 'participant-build'. An alternative participant-build approach employed by Oxfam was to train households to improve their building skills, provide free information and to supply low cost roofing materials so that they could build themselves. While different, these two approaches to re-building post-disaster place their core efforts in building the skills and capacity of those affected by the disaster.

A key advantage of the Canadian Government's program in Guatemala, was that unlike other programs residents were able to individualise their houses. This personalisation is highly important in creating a sense of ownership and belonging. While disasters pose significant logistical, resource and coordination challenges, Kreimer (1980, p. 275) explained that it is vital to consider those challenges within the pre-disaster context:

> When considered as shelter only, dwellings tend to be planned and built without regard for other physical and social basic needs and services (water, health, employment, education) required to support them and their inhabitants. Both in "normal" and post-disaster situations, housing is not an isolated phenomenon but a variable in a dynamic societal process.

By removing the disaster from its context, the opportunities for using existing skills, knowledge and materials are lost. Post-disaster housing cannot be air-lifted-in in the same way as a box of medical supplies or food can be delivered. It must be a holistic and integrated part of an overall recovery strategy.

Aid programs which support or build the governance mechanisms of local communities can have significant long-term benefits. Matin and Taher (2001) argue that aid strategies which support local capacity and flexibility appear to be more effective than material assistance. Davis (1981) writes that the communities' ability

to cope with stress is their primary resource, and is more important than the amount of material aid given to them. He emphasises the need for donors to recognise the abilities of local communities and to support rather than 'crush' or overwhelm their initiatives. Thorburn's (2007) research into community resilience and self governance in Aceh is a case study of how communities with social capital can be resilient, through established decision making mechanism, social norms and trust in leaders. Similarly, in India, Duyne Barenstein and Iyengar (2010) discuss the importance of the proactive civil society in Gujarat following the 2001 earthquake. Proactive local NGOs played a vital role in liaising between the government and those affected, providing invaluable source of information and communication. The situation in Gujarat was unique because of the work of local NGOs in creating central hubs for those affected to seek information about their rights and to express their views. Duyne Barenstein and Iyengar (2010) also describe how these local NGOs worked with the government to organise training for home builders, train overseers to monitor the quality of the buildings, and set up demonstration houses for people to visit. Their research revealed that inhabitants who had built the houses themselves were 93% satisfied with their house, compared to 22.8% satisfaction for those who had been relocated and whose house had been built by a contractor (Duyne Barenstein and Iyengar 2010, p.174-176). Furthermore, Duyne Barenstein and Iyengar (2010, p.176) argue that 'it is ironic that the project that enjoyed the lowest level of appreciation among its beneficiaries was the most expensive one, with housing units costing three times more than owner-built houses'. Duyne Barenstein and Iyengar (2010) acknowledge that the local NGOs had a significant role in the success of the owner-driven programs.

The resilience of communities is seen in their abilities to be self-reliant, to prepare for disaster situations, to take action in reconstruction programs and to request specific assistance. How the aid organisations approach reconstruction and how they engage those affected by the disaster can significantly impact on a community's resilience (Manyena 2006; Paton and Johnston 2001). Bankoff (2001) and Morrow (1999) use the term 'resilience' as a way of avoiding the term 'recovery', which implies that disasters are a disruption to the status quo and that people have a common linear path to recovery. By using 'resilience', researchers and policy writers

are suggesting that how people respond to a disaster, their needs and priorities, and how these are expressed in housing, will differ.

Community based disaster mitigation is a strategy based on the idea that communities have contextual knowledge and interest in long-term sustainability which relief organisations lack. Several studies (Akhilesh and Shaw 2009; Matin and Taher 2001; Wu and Lindell 2004) argue the importance of a long term approach to disaster planning, rather than just responding to individual incidents. Matin and Taher (2001) argue that the frequency of disasters in Bangladesh has prompted organisations working on reconstruction projects to refocus their approach to longer term disaster preparedness strategies, and to move from relief to developmental work. In Bangladesh, the lessons from past disaster recoveries and planning for future disasters have assisted people to be resilient to hazards (Bolin 1985; Matin and Taher 2001). Social capital fosters local participation in the reconstruction process, increasing the amount of local knowledge and long-term investment in the communities (Kenny 2007). Case study research of communities in Kobe, Japan, following the 1995 earthquake found that social capital was the primary factor in predicting a community's recovery post-disaster, which suggests that pre-emptive efforts to foster social capital networks could be beneficial for communities at risk (Aldrich 1995). Yet Duyne Barenstein and Iyengar (2010) argue that despite examples of successful owner-driven reconstruction, the dominant method remains donor-driven reconstruction, which as noted above, emphasises aid agencies' perceptions of immediate physical needs and/or the vulnerabilities of individuals and communities.

Duyne Barenstein and Iyengar (2010) consider a successful owner-driven housing program in Gujarat, India following the 1993 earthquake. They point out that this approach was not new in 1993. Baradan (2008) identifies the 1999 Marmara earthquake in Turkey as a turning point in both approaches and literature on post-disaster housing in Turkey from a focus on technological solutions to community based approaches. Kreimer's (1980) previous examples from the work of Oxfam and the Canadian Government in Guatemala during the 1970s were also participatory programs designed to facilitate owner-builders. Despite speculation that such approaches are too time consuming and therefore costly, Schilderman (2010) argues

that such people-centred approaches to rebuilding are actually more cost efficient than donor-driven housing programs in the long-term. Owner or people-centred approaches to reconstruction do not mean that aid organisations have less of a role in the reconstruction. Instead, their role is vital in facilitating the rebuilding effort through ensuring people are adequately skilled and by supporting those unable to rebuild themselves. Both Duyne Barenstein and Iyengar (2010, p.186) and Thorburn (2007, p.xiv) encourage aid organisations or governments to provide an 'enabling environment' rather than providing a physical house. Djalante and Thomala (2012) argue that such a preventative approach is necessary given the growing impact of climate change.

2.4 Conclusion

Disasters are overwhelmingly concentrated in poorer countries, or poorer groups within countries and extreme weather events and climate change will increase in the future. For the last 40-50 years, governments and aid agencies have been embarking on post-disaster housing projects using a one-size-fits-all housing model in an attempt to fast track disaster recovery. There are numerous case studies of individual projects which suggest that this strategy is at best inappropriate. Davis (1981) challenged the assumption that aid agencies should embark on such housing projects. Yet more than 30 years later, some aid agencies continue to plan and deliver such projects without questioning their own priorities or methods and in some cases without informing or involving members of the community. At the same time there have been examples of participatory approaches to rebuilding, yet these examples have not challenged the roll out of a universal style of housing for affected communities. Why? Because the dominant housing paradigm remained unchanged.

The field of post-disaster housing is filled with 'one-off' housing solutions repeated across different contexts and for different populations of people (Hamdi 2010). In the foreward to 'Build Back Better: Delivering people-centred housing reconstruction at scale' Nabeel Hamdi (2010, p.x) states that 'donor-driven, instant housing 'solutions' are notoriously inappropriate in layout and technologies, particularly in relationship to habits and lifestyles'. Hamdi (2010, p.viiii) succinctly sums up the challenge facing post-disaster housing; that despite the research and literature on post-disaster housing programs:

> that lessons learnt have yet to find their way into practice at a scale that counts; that many still refute the value of participation and argue instead that it slows down reconstruction, is costly and undermines professional responsibilities and good quality.

People are not simply passive victims, yet the language of post-disaster programs often refers to implementing housing units rather than facilitating their reconstruction (Christoplos et al. 2001). Christoplos et al. (2001) refers to the 'cart before the horse approach' whereby organisations build houses before they have indentified who will live in them.

However, changing understandings of disasters is not sufficient to change the type of housing that is built in post-disaster situations, because the epistemological and ontological reasons for building those houses lie not in our understanding of disasters, but rather in our understandings of houses. Despite the different ways disasters are understood to have occurred, the dominant, pervasive idea that post-disaster housing can solve the problems of a post-disaster situation prevails.

Disaster situations offer a unique opportunity for 'remaking', 'reconstructing' or 'reshaping' housing in a particular place because of the physical destruction wrought by the disaster. Boano (2009) describes how removed the post-disaster housing process is from the pre-disaster conditions. Boano (2009, p.2) suggests that a new tsunami geography was superimposed on Sri Lanka: 'there was a sense in which the clock was put back to zero' in the aftermath of the tsunami. Yet this clean slate is an illusion, as the physical evidence of the pre-tsunami housing exists in both the debris and partially standing structures and in the living memory and everyday practices of those affected by the disaster (Ruwanpura 2008). Divorcing post-disaster housing from the pre-tsunami housing culture is not a new phenomenon; in the late 1970s Kreimer (1979) argued that housing needs post-disaster are not different from those in 'normal' situations. While acknowledging that disaster situations pose challenges in terms of resource supply, identifying housing needs, urban planning, coordination of contractors and materials, Kreimer (1980) argued that those challenges do not validate abandoning all aspects of the pre-disaster housing style. Disasters, according to Kreimer (1980), occur within a context, a context which is not destroyed by the disaster occurring. Kamani Fard et al.'s (2010) research following the Bam

earthquake in Iran in 2003, found that physical possessions and photos that can be recovered from the pre-disaster houses offer an important link between the past and those that were lost and the re-establishment of personal identity in the new post-disaster houses. Kamani Fard et al. (2010 and 2012) also highlight the potential importance of recovering green spaces for re-establishing people's sense of connection to the post-disaster environments. Furthermore, the damage done by the disaster should not be used to undermine the validity of the local housing culture. The damage inflicted by events such as floods, earthquakes and tsunamis is not evidence of the inability of those affected to house themselves. The post-disaster situation must be considered within the existing context of those affected. In the following chapter I will argue that housing is intrinsically important to everyday life, not simply a physical instrument to solve the challenges of a disaster.

In this chapter I explored three international approaches to disasters which challenged how post-disaster houses are built but not what was built. In the following chapter I will explore housing as an integrated system of ecological relations in an attempt to refute the idea that houses are simply physical objects. I describe the diversity of houses in an attempt to challenge the misconception that post-disaster housing can be divorced from the context in which it is built. I will argue that housing is an integrated and intrinsic process within the context of the inhabitants' long-term recovery.

3. Housing Ecology: A Relational Understanding of Housing

3.1 Introduction

There is as yet no explicit theory of housing ecology, and formally developing such theory is beyond the scope and focus of this thesis. However, I find it a useful conceptual prompt for inquiry in this research. This concept guides the literature review presented in this chapter.

Much post-disaster housing research tends to be instrumental and reductionist, taking the house-object as primary. Such research has focused primarily on questions of policy, design, construction and economics of houses, and often on the monumental or exotic. Less research has addressed the experience of inhabiting houses, or the underlying processes by which they are produced, although this has begun to change with the rise of cultural research on home (see Blunt and Dowling 2006; Oliver 1987; Nas 2003; Waterson 1990). There is thus a need for more ecological or relational account of housing that, first, addresses the many ways in which housing is embedded within wider systems of power, meaning and belonging, and second, that consider houses themselves to be ecological spaces constituted through diverse practices (Coolen 2006). Such an ecological inquiry counterbalances investigation of houses as static structures with study of the ways in which they are part of vital, diverse, dynamic and living systems. Housing ecology is particularly important in a post-disaster context as a means of communicating the ways in which the destruction of physical houses does not destroy the local web of socio-cultural, political and environmental housing relations.

In the previous chapter I critically examined the field of post-disaster housing. I argued that with a changing appreciation of the causes of disaster and growing support for a preventative approach to disasters, a universalist approach to post-disaster housing can no longer be legitimised by the urgency and pressure of an emergency situation. A preventative approach to disaster risk requires large-scale international organisations to have comprehensive post-disaster housing policies and support materials for staff in the field. A preventative approach aims to reduce the number of organisations faced with building housing during an emergency situation with limited institutional or staff experience in this area. Preventative programs to

reduce disaster risk also give communities the opportunity to work with large international organisations, so as to build their capacity to manage their own risk and recovery and to create partnerships with INGOs that can be called on in disaster situations.

The changing context of post-disaster housing outlined above provides a valuable opportunity for re-considering the assumptions that shape understandings of housing within disaster response fields more generally. In this chapter, I explore the cultural and political diversity of housing relations as the basis for more integrated, flexible and participatory approaches to post-disaster houses. I draw upon the theoretical resources of several disciplines, including urban studies, architecture, sociology, anthropology, and geography. This breadth reflects the multidimensional nature of housing. In articulating housing not as a discrete object, but as an ecology of relations, I will argue that houses only become meaningful through the particular environmental, cultural and political contexts in which they are constituted. This approach opens the post-disaster field to contextual and dynamic complexities in the task of housing provision that are currently under-regarded. As explained in Chapter 4, I draw on a social constructionism methodology in order to understand how houses are formed and given meaning through social relations with houses. In the following sections I describe some of the key ways in which houses are inseparable from social norms and behaviours, symbolic meaning, cultural and political identity and world views. I start by establishing that, far from being a universal object, the term house can be applied to a great diversity of physical phenomena.

3.2 The Diversity of Houses

Aesthetically, geographically and temporally a wide variety of things are identified as houses (Oliver 1987, Rapoport 1969, Rybczynski 1986). Houses may be made out of bark, bones, clay, fibre, ice, leaves, metal, mud, plastic, sand, skin, soil, snow, straw, stone, wood and wool. They may be solid, porous or open to the elements. They may sit under, on or below the ground, or float on water or ice. They may last for generations or just one season. Houses may be round, square, rectangular, triangular, octagonal or irregular. They may house an individual or an entire community. Does this diversity signify more than just the differences between local environments and the availability of materials? Are houses simply a physical

expression of the inhabitants' skills of sheltering themselves from the elements? In this section I suggest that housing is much more than a physical negotiation of local environments. It is a fundamentally important context in which human individuals and societies come to understand their world and their place in it.

The forms of many iconic houses appear elegantly simple, as does their use of local materials. By iconic houses I refer to examples such as igloos built by the Inuits, the single-room stone huts built by shepherds to protect themselves and their flock, the tents of desert nomads, the concave shelters of the Australian aborigines. The materials for these iconic houses are drawn from the local environment. These houses appear to be natural extensions of their environment. They echo primary forms of burrows or caves. Yet in *Dwellings, the house across the world*, Oliver (1987) explores the hidden complexity of many iconic houses. Oliver's (1997) later work the *Encyclopedia of Vernacular Architecture of the World* outlines the extensive variety of house forms built by non-architects around the world and highlights the skills of these unrecognised designers and builders. Oliver (1987) writes that this complexity arises either in the design and engineering of these buildings or through the socio-cultural meanings they convey both to the inhabitants and to others in their communities.

One example Oliver (1987) draws on are igloos: igloos are built from ice blocks, cut at a specific angle to create a strong dome structure when built. The igloos are carefully designed to balance the need for fresh air and light against the need to retain warmth. An Inuit family, usually comprised of parents and children, will use an igloo for sleeping and storage. Despite their iconic status these are not the only living spaces built by the Inuit. Large wooden buildings are also built for social gatherings and meetings. Material availability and the icy environment are key concerns for the Inuits, and either the igloo or the meeting house could satisfy their need for shelter. Oliver's (1987) research of Inuit housing culture suggests that the visually simple form of the igloo obscures the engineering of its design. Furthermore, igloos are not inhabited solely because Inuit's lack the technology to build wooden buildings, instead the Inuits' buildings are designed to satisfy community as well as individual family needs. These buildings are not simply opportunistic but rather they are intentional spaces for the Inuits to enact their shared norms which distinguish

between the practices conducted in the private igloos and those in shared communal spaces.

Oliver (1987) also describes the woollen tents of nomadic herders. These too may appear basic, yet their visual simplicity belies the significance of these tents for their inhabitants. In choosing dark wool for their tents, the nomadic herders weighed the heat retention properties of dark coloured wool against their need for shade and protection from rain. Furthermore the need for ventilation in the desert heat is balanced against needing protection from strong winds. The shade provided by the tent is not only a barrier against the heat of the sun; the darkness under the tent creates privacy and security because the line of sight into the tent is obscured. The shade of the tent allows those inside to observe those outside without being seen themselves. While the nomadic lifestyle requires shelter to be temporary in the sense that it can be transported or easily deconstructed and rebuilt, the nomads also require a way to demarcate the area they are using to other nomadic people. The tent provides a means for the inhabitants to claim a section of desert as their own; shared norms among the nomads mean that this claim is respected by others. The design and angle of tent poles and the slope of the roof are used by the inhabitants to communicate their identity to other tented nomads. Therefore, for these nomads, environmental limitations are just one of many competing concerns in the design of their houses (Oliver 1987). Studying these houses provides insights into their local context, the skills of their builders, and the concerns and priorities that shape everyday lives and cultural identities.

Considerable thought, design and planning can be put into transient structures which are of vital importance to their communities, the temporary nature of nomadic shelters means they can be constructed in a short space of time, easily dismantled and if need be carried to a new location (Oliver 1987). Waterson (1990) also discusses examples of housing cultures in which houses are moved by the communities to new locations. The temporary nature of those houses is appropriate for people whose food sources change with the seasons. As Oliver elegantly argues:

> [t]here are peoples whose dwellings are little more than depressions in the long grass or rough shelters of branches and leaves. And there are peoples whose dwellings are massive structures, finely wrought in durable materials

> and sometimes centuries old. But the dwelling place is more than the structure, as the soul is more than the body that contains it; for untold millions of people the bond between themselves and their dwelling-place transcends the physical limitations of their habitation (Oliver 1987, p.7).

The shape of roofs appears to be particularly significant in the symbolic communication performed by and through houses. In *House Form and Culture* Amos Rapoport (1969) writes that in England a pitched, tiled roof symbolises security and shelter. Rapoport (1969) argues that in that cultural context, a flat roofed building does not symbolically hold the same home values as the pitched roof. This interpretation of flat roofs is spatially, temporally and culturally contextual. In Iraq, for examples, flat roofed buildings are houses (Oliver 1987). In fact, the flat roof is an important space for the household to gather and relax in the evenings. Murray Silverstein (1993, p.77) examines of the significance of roofs, arguing that '[f]rom the domes and vaults of monumental architecture to the timber frames of barns and peasant huts, there is something about the experience of roof forms…that goes to the heart of people's deepest feelings of place and shelter'. Silverstein (1993) argues that roofs create a sense of both inside and outside, whereby something valuable is contained within and separated from the wider outside world. In Silverstein's (1993) description of roofs, there is a sense of the roof creating a human space in the world which is both temporal and physical.

We understandably judge houses through the lens of our own housing experiences. For example, European explorers found houses in South East Asia threatening because they lacked windows and were thus without 'eyes'. Reflecting on the explorers descriptions of stilt houses, Waterson (1990, p.35) writes '[t]he house looks 'dead' because it has no eyes, even if in this case it does have legs'. The lack of windows and the internal darkness of the houses contrasted sharply with the values that shaped European houses at the time (Waterson 1990). Light interiors were particularly important for Dutch people, being associated with ideas of cleanliness and hygiene (Rybczynski 1986). In contrast, dark interiors were associated with poverty. By association, European colonisers regarded the houses in South East Asia as primitive and dirty. The Europeans attributed the dark interiors to a lack of advancement, a backwardness or primitiveness, rather than as a response to

cultural, political and environmental factors, and not least the fact that light and heat are entirely different at the equator than in Europe. When writing about wooden houses in Asia, Waterson (1990, p.32) argues:

> The interior darkness of the house is something frequently noticed with surprise by foreign observers. From a practical point of view, they rarely appeared to note that the inhabitants spent little time inside the house during the day, and that other spaces-the sheltered area beneath the house, the platform under a rice barn, or even a purpose-built open walled pavilion (as in Bali) or a simple roofed platform … might all in different cultures complement the enclosed space of the house and form an essential extension of it.

Those from a cool European climate sought to remove gaps in the external fabric of the house. Their built forms were designed to insulate against weather extremes and retain warmth. The structural strength of those buildings was valued because it signified ownership and security of tenure to the Europeans. For those Europeans time was spent creating a quality internal environment, whereas Waterson (1990) writes that in some cultures it is the outside of the house where the decoration and ornamentation occurs. When these Europeans experienced housing cultures different to their own they read the houses according to their own values and missed the differences in everyday practice. In attempting to replicate their housing values, Waterson (1990) describes how some brick buildings built by Europeans in Indonesia suffered from hot interiors and a lack of ventilation. Furthermore, those houses lacked the flexibility to withstand earthquakes and other environmental conditions which the timber houses had been designed to withstand.

Houses provide not only physical security from the weather but ontological security. The dwelling is ‘both a physical and an ontological condition whereby we feel secure, stable and complacent’ (King 2007). Houses give inhabitants a sense of security when they confirm the values and identity of those inhabitants. Seamon (1993) uses an example of the decorative shelter surrounding marriage ceremonies or the marriage night, such forms speak about the beliefs of the community and the couple, rather than providing physical shelter from the elements. Sheltering is more

than the creation of a physical barrier between inhabitants and the climate or weather; it is part of the ecological interactions of everyday life.

3.3 Houses and the Production of Private and Public Spaces

In the previous discussion of roofs, I described how roof form can be a way of signalling territorial ownership. Thresholds also create a territorial distinction between inside and outside. Just as roofs vary significantly in form and materials, so too does the design and position of thresholds. Rapoport (1969) discusses the different locations of thresholds in various cultures. For example Rapoport's diagram of thresholds in India, England and the United States shows how the position of the threshold in relation to the street and the house changes according to different cultural norms (1969, p.80) (Figure 3.1).

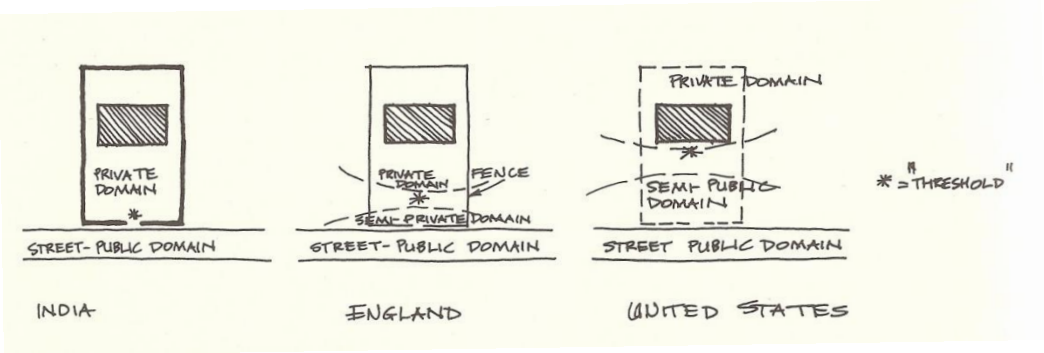

Figure 3.1 Location of thresholds in relation to the street (Relph 1969, p.80).

In Rapoport's (1969) sketch, the yard area in Indian culture is protected by a solid wall which obscures the line of site from the public street. The activities within that yard are private activities for those within the household, and those invited to cross the threshold into the yard. Rapoport (1969) notes the similarity between Indian and Mexican houses enclosed by a solid wall for privacy, creating a private internal courtyard for the household. In contrast, the front of the English yard is a semi-private space, which may or may not be fenced (Rapoport 1969). The threshold in the English yard exists between the front fence and the front of the house. With the threshold located back from the street there is a semi-public space which non-invited guests such as sales people may cross without entering the private space of the household. In Rapoport's (1969) final example from America he draws the threshold at the front of the house, indicating that the entire front yard is a semi-public space

and that the household's private space begins with the built structure of the house. The built environment can express the political relations between private and public spaces.

Households often have multiple thresholds, rather than just one. These thresholds distinguish between private spaces, for instance a guest may be invited into the semi-private eating space but not into the private sleeping spaces of the household. Therefore, privacy is not a solid wall; privacy is a shared understanding of who is welcome where, and when. There are cases where the distinction between public and private is physical, when a thick wall or screen is used to mark the boundary of space, in other situations the boundary is more subtle and marked by social norms and customs. Understanding norms and practices around privacy is therefore highly contextual. The same physical space may be characterised by different people as private or public. A useful example is the veranda, Mugerauer (1993) describes how the veranda is a public space in America, a meeting space for visitors and the public facade of the house. In other cultures the veranda is a semi-private space where the household gathers to relax. Therefore the same physical space many have different levels of importance and significance for different people.

In India decorated thresholds mark a separation between inside and outside (Dohmen 2004). Because the designs are temporary, the daily practice of drawing the threshold conveys a message to the community that the household is well and being cared for (Dohmen 2004). Temporary features such as chalk threshold designs, screens or curtains, may be seen as arbitrary decoration by an outsider, but be socio-culturally or politically important to inhabitants. Thus, socio-cultural norms and behaviours are encoded into the highly detailed spatiality of housing and domestic practices.

3.4 Every Day Practices

From birth people begin to learn how to communicate, eat, sleep, toilet, wash and play. Babies observe how people move; walking, sitting, squatting and sleeping. These practices are learnt behaviours, they become subconscious because within communities there are accepted norms for how people act. Yet how people perform these day to day activities vary significantly between communities. Some people stand to cook, while others squat or sit. Some people sit on chairs to eat, while others

sit on the floor or at a low table. Rybczynski (1986, p.78) writes '[d]ifferences in posture, like differences in eating utensils … divide the world as profoundly as political boundaries'. Rybczynski (1986) outlines how the differences in how people sit cannot be attributed to climate, poverty, wealth or technical capabilities. Therefore one group of people are not better adapted to their environment, wealthier or have greater technical expertise based on the type of furniture they use; rather these are part of their overall housing ecology.

Notions of cleanliness are key to understanding how people use housing spaces. Historically, the British, for example, were used to sitting on benches at a table because the floor was considered to be a dirty place (Rybczinski 1986). Whereas in Japan the floor was a clean space therefore sitting on the floor or at a low table was not an issue. Rapoport (1969) discusses how these interpretations of how people sit have affected house forms; by affecting the type of floor coverings required, the use and position of other furniture such as cupboards or shelves, and the position of windows and lights. For example, Rapoport (1969, p.63) writes 'it is not the fact of sleeping which is significant, but the furniture, arrangements, and spaces used which affect the house'. Thus, it is not the fact that people cook, eat, sleep, wash, toilet, play and relax, but *how* they carry out these daily activities. Through housing ecology the house can be understood as a system of relations rather than a physical object.

The spatialisation of these activities is also significant for understanding how people inhabit houses. While Paul Oliver's (1987) research suggests sleeping and storage commonly occur within a built structure, other daily activities such as preparing food and eating, washing and toileting, play and social activities may occur at varying degrees of separation from the sleeping/storage area. Furthermore, the house can be a site of both domestic and non-domestic employment. Oliver (1987) provides examples of farm houses where animals are sheltered within the house, or where they are kept within the fenced compound around the house. Hand et al. (2007) and Shove (2012) write about the choreography of domestic practice where housing spaces are woven into an experiential ecology of practice.

In his book *Home; The Short History of an Idea* Rybczynski (1986) details how concepts of privacy and insideness have been negotiated and developed through

European and American history. Rybczynski (1986) begins by discussing how there was once little spatial differentiation inside the house; people ate, slept, talked, worked, prepared food, gave birth, all within the one space. Within that space furniture was moved as needed, it didn't have a particular location or position and significantly furniture wasn't pushed to the walls of the room. People under one roof were not necessarily related, there may have been people who were unrelated but working together (Rybczynski 1986). He argues that those practices began to change as employment practices changed, as there became a separation between household employment and non-household employment. In his history of English houses, Rybczynski (1986) describes how households were originally livelihood-based, with people working together sharing one room in which all activities from cooking, eating and sleeping were conducted. A significant change to household practices occurred in England when children began to stay longer in the houses of their parents. This gradually led to the separation of sleeping areas of family members and those employed in non-household work (Rybczynski 1986). In this way, changing norms, institutions and political identities related to the family co-evolved with changes in housing ecology. In wealthy English houses there was a separation between those employed in household tasks such as cooking, cleaning or washing and the spaces they occupied, and the sleeping and social spaces of the family of the house. In contrast, Rybczinski (1986) describes how Dutch women in Holland, even those of wealth and power, cooked and cleaned for their household. These practices led to significant differences between these houses. In particular the Dutch women required their cooking space to be close to the eating space, and importantly they had the power to design the spaces to suit their needs. Therefore, the performance of daily activities and house spaces is contextually, temporally, politically and culturally significant.

3.5 Housing and Basic Needs

The United Nations' guiding principles for adequate shelter were formed on the understanding that all people have the right to a certain standard of shelter. In 1996 the United Nations Habitat Agenda defined adequate shelter as a basic right:

> Adequate shelter as defined in the Habitat Agenda (paragraph 60) means more than a roof over one's head. It also means adequate privacy; adequate

> space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as water-supply, sanitation and waste-management facilities; suitable environmental quality and health-related factors; and adequate and accessible location with regard to work and basic facilities: all of which should be available at an affordable cost. Adequacy should be determined together with the people concerned, bearing in mind the prospect for gradual development (Habitat Agenda 1996).

According to this definition, a house is more than a physical structure because it needs to *physically* accommodate concepts such as adequate privacy, space, physical access and so forth. The idea of a 'more than physical' shelter is unfolded through the material ways in which shelter is more than a roof. However, as the previous sections of this chapter have shown there is considerable cultural and historical variation in interpretations of adequacy and shelter. The final sentence in this definition holds that the core concept of adequacy can be decided upon only by the inhabitants of housing in any given context.

The definition of universal basic needs seeks to provide a common, shared understanding of the fundamental principles of shelter. However, when considered in relation to a particular locale or context, the interpretation of these basic needs grows complex. Understanding the basic need of adequate privacy raises questions about privacy for whom and from what. For example there may be a clear demarcation between nuclear families and the wider community, between family clusters and other families, between married and un-married members of a community, or between genders. Sometimes the line is drawn between public and private activities. A space may become private because of the activity occurring there, when at other times it is a public space. For example a person may be given privacy by other members of the household while they pray, the same space may then be occupied by guests who visit. In some cultures sleeping is a private activity, whereas in other cultures friends or family may sleep in a shared space. Some members of the community may be able to move more easily between public and private realms than others, and this may change the longer people know each other. The definition of adequate privacy may also change over time at different life stages or experiences, as

someone who has recently married or given birth or is ill may require a different level of privacy to other members of their community. When a person passes away the household may be given privacy to grieve by their community. In other cultures visitors, extended family and colleagues of the deceased visit the house to pay their respects to the deceased's family. Norms and practices around privacy are therefore highly contextual and may be difficult for those outside this context to distinguish.

Some houses, such as Malaysian long houses are designed for multiple nuclear families within the one structure (Waterson 1990). Each nuclear family uses a room to sleep and store items. They share a veranda space with other families, but each nuclear family gathers around their own hearth outside their room in the evenings. Both the 'long house' and each nuclear family's room are known as 'houses'. For these people it is the hearth, rather than the physical structure, that defines a family from their neighbours. Janowski's (1995) research with the Kelabit people of East Malaysia shows that the practices of family life are primarily based on the hearth and the production, preparation and consumption of rice. Their house (as a family node and as a community long house) gives material expression to this process of identification and differentiation. The house is often symbolically merged with the family, the house is viewed as the core of the family, and the family the heart of the house. There are also numerous examples of intergenerational houses, where three or more generations of related people live together. Oliver (1987) also highlights an example from Africa where one type of house consists of a fenced compound in which separate huts act as rooms for one husband, several wives and their children. Depending on the shelter there may also be space for animals, as with the Scottish rock walled farm houses (Oliver 1987). The inhabitants of houses are not static, their needs and practices change over time, and they require their living space to accommodate those changes.

3.6 House Societies: Marriage, Lineage and Order

In creating houses people are not only sheltering themselves but expressing their identity and living practices to those around them. Lévi-Strauss's theory of house based societies was a tipping point for scholarly understandings of houses (see Carsten and Hugh-Jones 1995; Waterson 1990). Lévi Strauss's theory is that houses, and people-house relationships, can be used to explain power, alliances and hierarchy

in social groups (house societies rather than housing ecology). Since Lévi-Strauss much ethnographic field work has been done around the world to challenge and test his society theory. Lévi-Strauss's work sparked the interest of researchers working in architecture, anthropology, ethnography, cultural studies and history. The theory of housing societies is transdisciplinary and brought researchers from different schools together to challenge and critique each other. Waterson (1990, p.138) argues that the Lévi-Strauss's thesis is highly useful for Indonesian studies, in fact she argues that 'kinship systems of the archipelago … can best be understood only when the house is taken as their main organising principle'. Lévi-Strauss's work has been invaluable in providing a means for researchers to explore in-depth people's interactions, values, assumptions about housing and how their housing communicates to and about them.

For example, Bloch (1995), drawing on Lévi-Strauss, explores the house in Zafimaniry culture in Madagascar. Bloch argues that house and marriage are conceived as one; for the Zafimaniry 'marriage without a house is a contradiction in terms' (1995, p.72). In Zafimaniry culture a house is built at the beginning of a marriage and is added to throughout the marriage, and by future descendants. Both a marriage and a house are physically as well as symbolically built over time as children are born and the house is added to. 'A marriage, that is a house, is still growing perhaps a hundred years after it started' (1995, p.81). A monogamous marriage is the core for the family and their descendants, who return over generations to be blessed in the houses of their ancestors (Bloch 1995). Bloch writes that the burning of Zafimaniry houses by foreign soldiers in 1947, resulted not only in the loss of physical houses, but also of the villagers means of relating with their ancestors and practicing their culture. The villager's ability to enact their beliefs was destroyed until they were able to return to the village and begin building houses again (Bloch 1995).

3.7 Houses in Aceh

This thesis is centred on the housing experiences of people in Aceh. Architecture in Aceh has been influenced by the traditional vernacular architecture of Austronesian people that migrated from what is today Southern China and Northern Vietnam (Wuisman 2007). Wuisman (2007) writes that the Austronesian vernacular architectural tradition commonly features wooden houses on stilts. Wuisman (2007)

details how waves of traders and migrants to Indonesia have influenced architecture, including Hindus, Chinese, Islamic and later Europeans. This summary echoes a common saying in Aceh, Acehnese people explain the spelling of 'Aceh' as the influence of Arabic, Chinese, European and (Hindu) Indian peoples. There are several studies of houses and housing culture in Aceh including Dall (1981), Nas (2003), Siegel (1978), Snouck Hurgronje (1906) and Waterson (1990). Waterson (1990) provides an invaluable source of extensive case study research of houses and people's relationships with those houses, throughout South East Asia. I have also visited libraries in Banda Aceh for information about houses prior to the tsunami. While in Banda Aceh I visited a private replica traditional Acehnese house in Banda Aceh (Figure 3.2) and the cultural site *Rumoh Aceh* meaning Acehnese house where replica houses from five Aceh districts have been rebuilt (Figure 3.3).

Figure 3. 2 A replica traditional Acehnese house, Banda Aceh

Figure 3. 3 Traditional Housing Rumoh Aceh, Banda Aceh

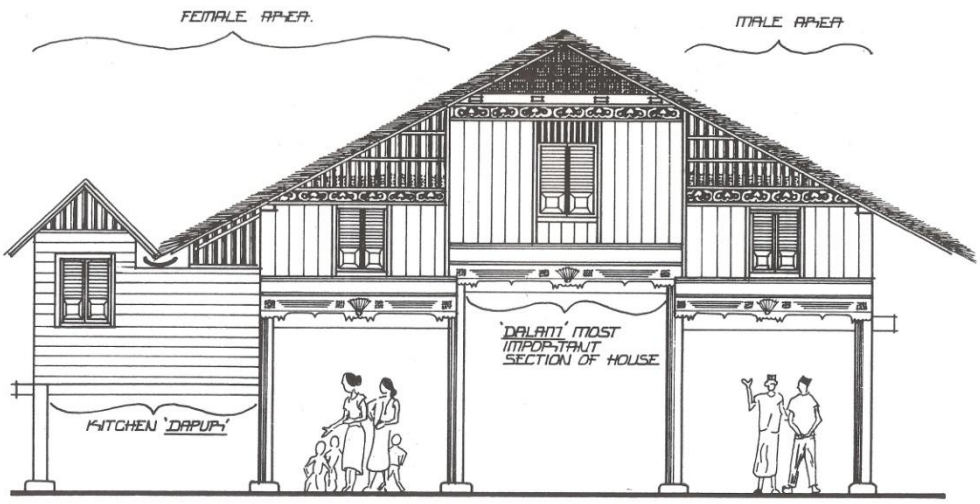

Figure 3. 4 A drawing of a traditional Acehnese house (Dall 1982, p.43).

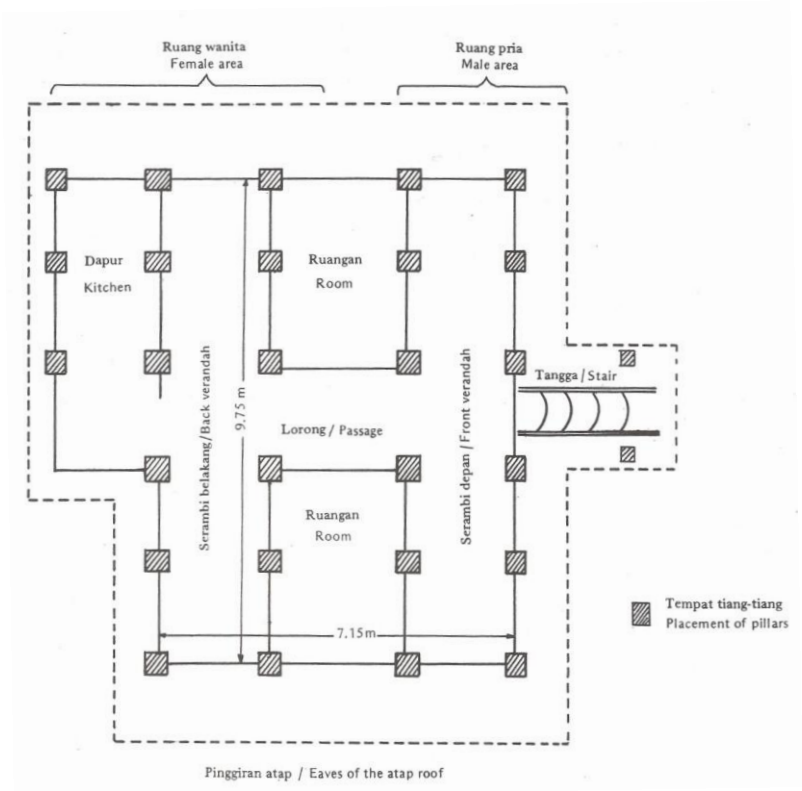

Figure 3. 5 Floor plan for a traditional Acehnese house (Hurgronje cited in Leigh and Kerajinan 1989, p.70).

Architecture is a source of pride and identity for Acehnese people. Traditional Acehnese houses are considered to be iconic symbols of Acehnese culture and heritage. The use of housing symbols as icons occurs across Indonesia, perhaps as a means of forging national or local identity (Wuisman 2007). However, unlike

traditional houses in other areas of Indonesia which were being abandoned or heavily 'modified', vernacular architecture in Aceh was part of the lived experience of rural people prior to the 2004 tsunami (Wuisman 2007). Acehnese houses were not only historically interesting, they were the foundations for everyday life and relations among people in Aceh.

There is no one 'Acehnese house' but rather various interpretations and adaptations of shared housing themes. Traditionally houses in Aceh were built on stilts, these houses are known as *rumah panggung* (Figure 3.4). The stilts are known as the *kaki* or feet of the house. Raising the house on stilts has several benefits. First the space below the house allowed for breezes to travel under the house cooling the interior through slats in the wooden floor of the house. Second the interior of the house was protected from periodic flooding. Third the space under the house could be used for keeping animals such as chickens or goats. Fourth, alternatively the area was a shaded space that could be used for household tasks such as preparing food or washing. One advantage of this space was that it was semi-public which meant that women from different households would gather to share tasks or children would play together. The space under the house varied between houses, some were built only a few feet above the ground, while others were built so that people could stand and walk under the house.

Wooden houses on stilts were entered via a ladder or steps up to the house. Acehnese living spaces consisted of five core areas; the guest entrance, the private spaces for the family to sleep, an informal space for the family to relax, a kitchen and a washing space. These areas were built differently according to the wealth and resources of the household. Where possible the guest entrance was highly decorated with wooden carvings in the gable of the roof, this area could either have been a terrace or a living space enclosed with wooden walls. Behind the guest entrance were the private rooms for the family to sleep, moving from the guest area to the sleeping rooms often meant stepping up to a higher level within the house (Figure 3.5). These sleeping rooms may have been separated from the living area by wooden walls, screens or curtains. Married couples would have their own room, while young children shared with parents and extended family or visitors could stay overnight in the living spaces.

Stepping down from the other side of the bedrooms there was either an area used for a kitchen space and/or a more informal living space for the family to relax.

If the kitchen was not a part of the main house it may have been separated, the separation of the kitchen was sometimes to protect the main house because cooking was done on an open fire and there was the risk that this fire could burn down the house. The wet area of the house, for washing and toilet, may have been near the kitchen space or it might also have been a separate structure, this may have been to create privacy around a well for people to wash and toilet.

There are strong ties between women and houses in Aceh. While Aceh is a patriarchal society, some cultural norms echo those of the matriarchal Minangkabau people who live on the West of Sumatra near the Aceh border. In Minangkabau culture the woman of the house owns the house, her husband is a guest in her house. In Aceh, daughters often, though not always, inherit their parents' house while sons are given land for farming. Waterson (1990) notes that women in Aceh are often responsible for subsistence agriculture on land surrounding or close to the house, while men are often employed at a greater distance from the house.

When a young Acehnese couple marries, the couple are likely to move in with the wife's parents until after their first child is born. They will either then remain living in that house or the parents will seek to build a house for them close to the family house. Waterson (1990) notes that when the main house and kitchen are separate, the parents of the newly married couple may move into the kitchen house to provide space for the young couple within the family house.

Waterson (1990) provides several examples of different ways in which *balai* are used by Indonesian communities, from living spaces, resting or sleeping spaces, places of religious or spiritual significance for the community, social spaces for meetings or special occasions. In some Indonesian communities *balai* are used as a sleeping house for males within the village, and have a dual purpose of acting as a guard house for males protecting the community (Waterson 1990). However, Waterson (1990) argues that even when this space is used by males it is not a specifically male space and is used by other members of the community during the day. These open

spaces are important given that, in the heat, ventilation is a key concern in both houses and *balai*. Waterson (1990, p.34) argues:

> in hot and humid coastal areas where ventilation is the dominant consideration for comfort, houses generally incorporate large windows, enclosed only by shutters and often reaching from floor to ceiling on all sides of the house – as among the Malays, Bugis and Acehnese, for example.

In Acehnese culture, the house on stilts is symbolically representative of a world view in which people occupy a space between the base non-human world and the sacred non-human world. Indeed, 'most indigenous belief systems of the Indonesian archipelago share the concept of a three-tiered cosmos, consisting of a middle world inhabited by humans, sandwiched between an upper and a lower world' (Waterson 1990, p. 93). Waterson (1990, p.16) explains how the activities and uses of space reflect this world view:

> the structure of the house, with its under-floor level occupied by animals (a pig, two chickens, and a dog), the main floor by humans, and partitioned attic containing what appear to be valuables (chests and a drum), already shows the three-tiered division of inhabited space

Waterson (1990) describes how important the skirting-board is in differentiating between the dirty space below and the clean space within the house, she argues that although this skirting-board is non-structural it is highly important and the level of decoration is indicative of this. Similarly the gables of the roof, particularly at the guest entrance of the house are decorated with carvings. This roof space, in both traditional and contemporary houses, is used to store the families' valuable items, where they are safe from floods. The carved openings in the gable serve a second purpose by allowing breezes to travel through the house and hot air to flow out keeping the interior cool.

The direction of the houses, facing east-west, has environmental, cultural and religious significance. The direction of the house means that prevailing northerly and southerly winds travel over the long sides of the roof. The direction also has religious significance, with influences from early Hindu as the house faces away from the

darkness of dusk where evil spirits lie, and for the dominant Islamic population the house faces Mecca (Dall, 1982; Nas, 2003).

Traditionally houses were built in clusters rather than being set out in rows or a grid. Houses at the centre of rural villages were organised on an east-west axis and were surrounded by clusters of houses (Dall, 1982). Dall (1982) notes that this cluster pattern meant that the boundaries between properties were not clearly defined as houses themselves were not fenced. Trees surrounding the houses were important, for those visiting the village particular trees indicated which house belonged to the village leader. Waterson (1990) wrote that fruit trees were a key symbol of ownership and were themselves an important heirloom because of their importance for the household's livelihood. Waterson (1990, p.27) described how despite the comparatively large population, '[e]arly travellers were delighted by the rural appearance of the city of Aceh'. This sense of the rural was created by the wooden houses on stilts amongst fruit trees such as coconut and banana trees and the absence of city walls.

Prior to the 2004 tsunami, wooden houses continued to be the norm in rural areas, although the use of masonry architecture was growing in Banda Aceh (Nas, 2003). There are several reasons for the move towards masonry construction; first traditional style Acehnese houses were relatively expensive to construct, due primarily to the labour involved and large sizes of timber involved (Nas, 2003). Second, Nas (2003) suggests that the proportions of the traditional houses with their low entrances requiring people to bow when entering the house were considered to be less convenient than a masonry house. Third, Nas (2003) argues that the owners of masonry houses were thought regarded by their peers to be more up to date than those living in traditional style houses. Rather than being a masonry replica of the traditional Acehnese house, many masonry houses were courtyard houses. Living practices in these courtyard homes were similar to those of the traditional houses; for example there are front guest areas, internal private sleeping rooms, and the rear of the house has an informal family area with terrace for the family to gather and relax. However, in contrast to the heavily decorated guest entrances of the traditional Acehnese houses, these houses had smaller front entrances and decoration was focussed on internal spaces not visible from the street. To retain and promote

Acehnese traditions government policy required houses to have some traditional element up until 2003; these traditional elements were features such as decorative roofs (Nas, 2003). Nas's (2003) research of houses in Aceh occurred prior to the tsunami, he argued that people in Aceh had a desire for change, away from the traditional style of Acehnese houses, but that their use of space reflected traditional living patterns. For example, Nas (2003) wrote that although there was a move to masonry houses those houses were sometimes built with different floor levels to distinguish between spaces inside the house. However, masonry construction was largely occurring in urban rather than rural areas of Aceh.

The role of traditional houses in Aceh has not ceased because of the move to masonry houses in urban areas. Waterson (1990) argues that even when it is no longer inhabited on a day to day basis these houses continue to perform a fundamental role by being the site of belonging, through which people have established relationships and understand their heritage. Waterson (1990, p.72) states that even when people no longer inhabit a traditional house 'its place in their lives and identities is, if anything, perhaps still more significant'. Waterson's (1990) work highlights the importance of traditional or ancestral houses, that they are important not only for individual families but for communities, she argues, that the maintenance of a traditional house as a place to mark significant occasions and to meet is vital for the resilience of the community. In Aceh, on significant occasions people visit the houses of the elder members of the family, visiting not only the people who live there but the house as a connection to the ancestors who have lived there before them. The houses of these elder family members serve as gathering spaces for the extended family on dates of significance or at the time of wedding, death or births. Family members, of both genders gather to cook food for the big day when many guests will visit the house.

In the past traditional houses and newer masonry houses were both relatively durable during earthquakes, but only when the newer houses were built to a quality standard using 'reinforced concrete framing' (Boen, 2005). Traditional houses were designed to survive flooding, fires (the roofs could easily be removed if it caught fire), designed for ventilation to use cool breezes while diverting strong winds over the

roof, the type of wooden construction, using twine and joints rather than nails allowed the house to move and be more durable during earth quakes (Dall, 1982).

The traditional house is symbolic of something more than its physical form: it is a cultural microcosm of the history, world views and relations of Acehnese people (Waterson 1990). This house is not simply a physical entity, it embodies Acehnese housing ecology. Through the house people interpret their world and express values and ways of living to those around them. Once we understand the importance of housing for cultural and personal identity it is not enough to simply build 'a traditional' house. A traditional house may be symbolically important but not what people literally want to live in. Housing is not one form, but adaptations and interpretations of core ideas and beliefs.

3.8 Conclusion

In this chapter I have explored the diversity and complexity of the form, interpretation and use of houses. I have argued there is no universal reference point or scale by which to judge the appropriateness of houses. How people enact everyday practices, what they need and expect of houses, varies considerably both over time and between different communities. When someone outside of a particular housing ecology judges that housing, they inevitably do so through the lens of their own values, experience and history. After a brief survey of the ways in which housing is embedded in the material and symbolic relations by which a community makes sense of its world, I provided a brief overview of housing in Aceh, considering the Acehnese housing traditions and the move to masonry construction in urban areas. Prior to the 2004 tsunami, housing was a living expression of the dynamic identities, cultures and practices of Acehnese people. Given how important their houses were for everyday life, the central question that emerges is how people in Aceh inhabit post-disaster houses? In the following chapter I will outline how my research was designed to respond to this question.

4. Research Design

4.1 Introduction

The previous chapters have been centred on the approaches and activities of post-disaster housing agencies and researchers. It is notable that the voices of those local peoples directly affected by the tsunami are absent from the literature. My research has been guided by a concern for eliciting the voices of those inhabitants of post-disaster housing, and to do so in a way that retained their diversity and complexity. In line with this aim, this chapter outlines how the research was designed and implemented to learn from inhabitants of post-disaster housing, to respect their views, and to gather a range of perspectives through spoken narratives and visual drawings and photographs. To develop a rigorous and reflexive research methodology I drew on a broad range of literature including qualitative research, ethnographies, housing studies, anthropology and cultural geography.

My research is best understood when framed by the theory of social constructionism. That theory allows me to explicitly discuss the messy, contradictory and creative processes of conducting research with people. Social constructionism also allows me to acknowledge my own role in interpreting and crafting the research process. To critique my role as a researcher in a cross-cultural setting, I draw on the literature of ethnography, but I am not claiming to be an ethnographer. In this chapter I will also establish the way in which this inquiry draws on the case study method for generating in-depth, contextual understandings of particular settings. To undertake this research, I begin with the understanding that participant' views and experiences can be known and gathered through dynamic and flexible interview processes. In this chapter I will outline the qualitative research strategy I employed to design the verbal and visual interview methods. I judge the value of this research in my ability to employ multiple methods, be rigorous and reflexive. Firstly however, I need to explain the theoretical underpinnings of social constructionism.

4.2 Social Constructionism

The thesis draws on the idea of social constructionism; that meaning is created through shared, lived experiences, rather than meaning being a pre-existing object

available for study. 'Meaning is seen as arising in the process of social interaction between people … meanings are seen as social and cultural products, as creations that are formed in and through the defining activities of people as they interact' (Coolen 2006, p.186). Social constructionism theorists (Jacobs et al. 2004) argue that knowledge is gathered through an 'interpretative process', 'in which the actor selects, checks, suspends, regroups and transforms meanings in light of the situation in which he or she is placed' (Coolen 2006, p.186). Meaning is created and mediated first through participants' lenses and second through the researcher. The emphasis on the contextual making of knowledge contrasts the positivist perspective that knowledge exists 'out there' in reality (Jacobs et al. 2004, p.3). Knowledge, for social constructionists, is seen as created by people within a broader socio-cultural, political or environmental context.

Social constructionism is often employed by housing researchers as a pathway into discourse analysis (Jacobs et al. 2004). Language and discourse are often considered central to eliciting information about interactions and relationships between people and houses. Jacobs et al. (2004, p.3) explains that 'our access [to the material world] is mediated through language and discourse'. Although social constructionism does not lead to set research techniques, interviews often form a central component of a social constructionism approach.

One criticism of social constructionism is that it is anthropocentric or humanist[3] however, social constructionism does not necessarily focus only on human interactions (Jacobs et al. 2004). Social constructionism can be interpreted as social interactions between people, materials, technologies, environments and non-human life (Jacobs et al. 2004). In this thesis, social constructionism is used to interpret relationships between houses, inhabitants, communities, environments and livelihoods.

Social constructionism does not deny the importance or existence of material objects (Jacobs et al. 2004). Coolen (2006, p.188) explains that 'the meaning of an object exists in a relationship between the object and the individual for whom it is an object … an object may have different meaning for different [people]'. Critiques of social

[3] See Jacobs et al. (2004) for a description of humanists.

constructionism, including positivists, suggest that there is a fundamental contradiction in social constructionism, between what is seen as material and what is viewed as construction (King 2007). Jacobs et al. (2004) argue that social constructionism does not deny that material objects exist, but that they are recognised as objects through socio-cultural interpretations. I take the position that that certain materials do exist, but the interpretation of how, where and when they are used is contextually meaningful. In Chapter 3, I explored how assumptions taken as facts, such as building windows in a house or how people use a toilet, when viewed from the perspective of social constructionism, are grounded in socio-cultural processes and perspectives rather than universal truths. In the same chapter I described how certain processes can also be said to exist, people make houses using materials, however the meanings given to those materials and the processes of building can be understood to be social constructions. The distinction between what exists and what is created is constantly being negotiated and disputed. As King (2004) argues, the boundary between the material and the social is problematic, but this does not mean that social constructionism is not useful. By acknowledging how some meanings are created, the situated, contextual processes of meaning-making and the contradictions and changing dynamics of meanings can be explored. Social constructionism theory opens and challenges conceptualizations of the world and every day practices in it.

4.3 Qualitative Research

Qualitative methods are appropriate means of applying theories of social constructionism (Jacobs et al. 2004). Locating myself in the field of qualitative research means that I seek rich, nuanced and contextual research material in ways which allow for the complexity of lived experiences (Mason 2007, p.1).

> Through qualitative research we can explore a wide array of dimensions of the social world, including the texture and weave of everyday life, the understandings, experiences and imaginings of our research participants, the ways that social processes, institutions, discourses and relationships work, and the significance of the meanings that they generate.

Denzin and Lincoln (2008) describe qualitative research as a craft, drawing together what is available in the context, exploring a range of strategies and tools to seek a

variety of interpretations. Following this theme of crafting qualitative research, they describe the creative process of editing, re-making, re-forming research materials into written documents. Denzin and Lincoln's (2008) description of writing research highlights the complexity of this process. The research process does not finish when the writing begins. Writing is a process of accepting, rejecting and refining ideas.

Given that my aim in designing this research was to give precedence to the voices of the people living in reconstructed housing, qualitative research is appropriate because people have space to tell their stories and to introduce new and diverse ideas (Mason 2007). Qualitative research requires in-depth detailed analysis of people's views in a particular time and place (Mason 2007). The research is designed to focus in-depth, to explore and be flexible to the context, rather than to broadly generalise or represent a wider phenomenon (Mason 2007).

The use of quantitative methods is common in emergency situations, where information is needed quickly for emergency planning. Time pressures encourage INGO staff to write surveys, useful for categorising or generalising about populations. In such situations, there is little opportunity to question participants' responses or to allow them to raise new information (Mason 2007). In my previous work in Aceh (see O'Brien and Ahmed 2012) I learnt that some residents in Aceh had participated in surveys and interviews following the tsunami in which they did not know who was collecting their information or what the purpose of the information was; they were concerned that their information would be used to decide whether or not they received aid. These experiences strengthened my decision clearly and ethically explain the purpose and intentions of the research. While some researchers combine qualitative and quantitative methods, using the two to complement each other, others argue that those fields are mutually exclusive (Denzin and Lincoln 2008). The decision to work in either field arises from the research aims, but also more fundamentally from the researchers own epistemology and ontology which has informed their conceptualisation of the research question (Mason 2007). In this thesis, a qualitative approach is appropriate for studying complex people-house relationships and drawing in broader contextual knowledge.

Qualitative research is criticised because it does not fit the criteria of quantitative research, including generalisation and repeatability. Qualitative researchers respond

to criticisms of representation, generalisation and validity by pursuing rigorous and crystallised research strategies (Denzin and Lincoln 2008). A crystallised[4] strategy is developed to gain different perspectives and experiences.

> Qualitative research is demonstrably trustworthy and rigorous when the researcher demonstrates that he or she has worked to understand the situated nature of participants' interpretations and meanings. The quality of qualitative data analysis depends on following well-thought-out procedures, and on ensuring that these procedures reveal the structures of understanding of participants (Ezzy 2002, p.81)

In this thesis, crystallisation comes from the use of multiple visual and interview materials. The aim was not to find evidence or be representative, but rather to interpret through contextual, nuanced, respectful and reflexive narratives (Denzin and Lincoln 2008). Reflexivity is central to an ethical and responsible research design (Mason 2007). I will discuss my role as a researcher and how I have aimed to be reflexive in more detail in the following section.

4.3.1 Interpretive Ethnography

Although this research is not an ethnography, this field of research is useful for analysing this work. In the previous sections, I described how people's knowledge, perspectives and narratives can be known through social interactions (Mason 2007; Goldbart and Hustler 2005). Ethnographers often adopt a social constructionist stance by which meanings are created through interactions, relationships and the dynamics of people in a particular context (see Goldbart and Hustler 2005). They also draw on the field of qualitative research to learn in-depth about the complexities of social interactions (Alexander 2008; Goldbart and Hustler 2005). Ethnographies are often centred on studies of peoples' every day practices (Bryden 2004; Dohmen 2004). Ethnographers are not searching to uncover or reveal truths about those practices but to gain understandings of contextual and cultural lived experience (Goldbart and Hustler 2005). The term 'interpretive ethnography' arises from the

[4] See Denzin and Lincoln (2008) for a discussion of crystallized research methods, in contrast to triangulation and multi-methods approaches.

position that lived experiences are not just re-told, but are interpreted through a dynamic process of creating knowledge (Mason 2007).

There is a diverse range of ethnographic approaches to research, but what they most often share is a focus on extensive field experience to learn about a socio-cultural context (Mason 2007). Mason (2007) suggests that it is the ontology of grounded lived experience which is common among ethnographic approaches. In this thesis, a long field work period was necessary for learning about inhabitation, lived experiences and every day practices. It was also necessary for my research strategy to allow for long interviews, which gave participants extended opportunities to express their thoughts and feelings, and for me to understand them (see also Section 4.4). Mason (2007) argues that ethnographic approaches often arise from postmodern epistemologies that understand research as a dynamic process of creating knowledge, rather than a fact-finding mission. Research strategies such as observation and interviewing are often part of an ethnographic approach (Goldbart and Hustler 2005), but other strategies such as document analysis, studies of material culture or visual representation are also used.

One difficulty with an ethnographic approach is that people must be able to talk, physically, emotionally and conceptually, to be able to have a discussion with someone and to remember their past. The memory of something and its narrative are not facts, but rather interpretations which may change with each articulation of them. Alexander (2008 p.75) states ‘culture travels in the stories, practices and desires of those who engage it’. Ethnographic approaches thus draw on the context and setting, as well as multiple layers of interviews and a range of perspectives to interpret what people say (Mason 2007).

Ethnographic approaches are often concerned with culture, as a way of exploring differences or interpretations of different people. Culture is not necessarily racial or religious in the sense that some cultural studies centre on cultures of particular places of employment or education (Denzin and Lincoln 2005). Yet often ethnographers’ work relates to issues of cultural difference or other-ness, in the sense that they are either researching others or wanting to communicate to others (Alexander 2008; Goldbart and Hustler 2005). The colonial legacy has left an uncomfortable pattern of ethnographers and anthropologists who have set out to research the ‘other’, often

these were white researchers travelling to exotic countries to research inhabitants of those countries (Denzin and Lincoln 2008). There was a tendency towards objectification through recording and representing those people, without questioning the implications of their work. Past ethnographic approaches expected that ethnographers had a right to research and claim an authority over the knowledge they produced and the people they researched (Denzin and Lincoln 2008). Contemporary criticism (Denzin and Lincoln 2008) argues that no one has an automatic right to research someone else. Ethnographies are not valid simply because they are ethnographies, and potential participants have the right to decline to participate.

I acknowledge that my ability to write, read and speak English, as well as the opportunity of the PhD candidature is powerful. I have taken an ethical approach through using research strategies that respect and engage participants in ways which are appropriate to the post-disaster context. I have considered the power of research and of the re-presentation of knowledge, and the potential implications of the research for the participants (Denzin and Lincoln 2008). Research has the potential to be empowering and/or disempowering. The engagement and interactions in this research happen through sharing the research aims, methods and potential implications with participants, and not treating them as if the research is about them for a distant, elite other (Tedlock 2008).

Feminist critics of ethnographers (Enarson 1998) have had concern for the voice of participants and the power relations between researchers and participants. Research and narratives have political implications for participants; thus feminists have questioned who the research is for, who will read it and how it could be used or useful for those researched. In light of feminist criticism, researchers have a responsibility not to cause stress or trauma for their participants, to be respectful of their privacy and wellbeing, as well as to be mindful of the future consequences of the research (Descombe 2010). For those reasons, my research assistant and I clearly identified ourselves when meeting people, explained the aim of the research, what participating would involve and the potential implications of the research. I explained that there was no obligation to participate, participation could stop at any time and there would be no negative consequences from not participating. I sought and received verbal consent before beginning any interview. Before embarking on a research strategy I applied for and received ethics approval from the Tasmanian

Social Sciences HREC Ethics Committee (H11256). Included in the ethics application was the information sheet (Appendix 1) I prepared for participants. On meeting a potential participant I explained the nature of the research according to the information sheet and offered them a copy of it which I had translated into Indonesian. I received ethics approval for participants to give verbal consent to be interviewed because written consent could have been daunting for the participants and discouraged them from participating. I included a photograph of myself and my first research assistant on the information sheet to assist participants to recall who I was and why I was in the village.

4.4 Research Strategy

I first visited Aceh in April 2009 with one of my supervisors, Dr David O'Brien (see Ahmed and O'Brien 2011, O'Brien and Ahmed 2012). At that time we visited several housing projects with assistance from staff at the School of Architecture, University Syiah Kuala in Banda Aceh. In September 2009, I returned to Aceh as a research fellow with the Aceh Research Training Institute (ARTI). That 3-4 months in Aceh allowed me to study a range of possible case study sites, study Indonesian and use the library resources at ARTI. In January 2010 I was able to undertake a 6 week Indonesian language course through the University of Tasmania at the University of Mataram, Indonesia. The course allowed me to efficiently improve my Indonesian grammar and diction in a formal setting. I began field research in Aceh in 2010 by hiring my first research assistant, selecting a case study site and asking permission of the village leader. It is in understanding of the language that surprising, unexpected and new information appears. The use of language is also how a researcher weighs up what they are being told, critically analyses the stories and the agendas of the people telling them. Attention to language and diction was important for the aims of the research. It was therefore necessary and advantageous for me to be able to understand Indonesian and some Acehnese. Language ability meant I was able to engage with the interview, and could lead or follow the interview without breaking the rhythm for translation. During the course of the research I conducted 47 interviews in the case study site; some were individual interviews and some group interviews depending on the circumstances each day. The following subsections detail my research strategy.

4.4.1 Case Study Selection

Qualitative researchers frequently choose case study strategies because they require rich detailed narratives (Allen 2009; Stake 2008). Ethnographers also often choose to focus on one case study because cultures are embedded in contextual experiences (Stark and Torrance 2005). Case studies can be bounded differently; by characteristics of participants, times, places or environments. They are also conceived differently; movements, events, people or an individual can become a case study (Stake 2008).

In this thesis the case study is geographically bounded. A geographic case study is not necessarily static, with strict easily identifiable boundaries. Case studies are often systems, their boundaries determined by the researcher (Stake 2008). Positivist scientists may argue that such a geographically bounded field location impinges on the significance of the research because the research is not representative of the wider population. I am not suggesting that the chosen village is representational of all villages or of all people-house relationships. If for example the majority of people in the case study village expressed a desire to paint their house blue that statement would not suggest that the majority of people in Aceh, nor the majority of people affected by a disaster, want a blue house. Instead those statements suggest that the colour of the house was important to those people at this point in time. Broader representation is not necessary in qualitative research because it is judged by other criteria (Mason 2007). Although the case study is not representational it is instrumental in bounding the area geographically and in providing insights into participant's experiences of post-disaster housing in that location (Stake 2008).

The selection of the case study site was informed by three overarching concerns, in no particular order; first the aims of the research, second the willingness of people to participate and third the characteristics of the researcher. The first concern was that the case study village would meet the research aims because participants had experienced three types of post-disaster shelter (emergency, temporary/transitional, permanent) and that shelter was provided by a large international non-government organisation (INGO). The case study I have chosen is a village where two permanent and one shelter housing organisation operated. A village with a small number of housing organisations made studying the relationships, communications and timeline

within the communities much easier than if I had been working in an urban area where multiple organisations were building next to each other. I also chose the village because the relief organisations working there had previous experience building housing in post-disaster or emergency situations and with building in Indonesia (see chapter 5). Although there are interesting examples of the work of smaller scale organisations or organisations working on housing projects for the first time, this research is focused towards organisations with existing institutional knowledge (see chapter 5). As this research is exploratory there is much scope for future research in this area.

The second concern in the choice of field site was for the willingness of people to participate in the research. Working on a separate project with one of my supervisor Dr David O'Brien I gained knowledge of various housing projects in and around Banda Aceh[5] (see Ahmed and O'Brien 2011, O'Brien and Ahmed 2012). I explored different options for the case study however the choice became a geographic question as I learnt about participant fatigue. I chose not to work in an urban area because of the amount of survey work that has been done in Banda Aceh, both by journalists and relief organisation workers. Such surveys are necessary in an emergency situation so that organisations can gain information quickly and begin to allocate resources. The majority of survey work happened in and around Banda Aceh. Thorburn (2009) reported that people in Aceh had participant fatigue from having been interviewed and not known who was interviewing them, where that person was from or where the information was going. Although my work was by design quite different from a survey, participant fatigue was an important consideration.

The third concern arose out of the research context, my gender coupled with my foreign-ness complicated the choice of case study site. Being a female meant that it was more difficult for me to stay overnight in the village than it was for my male colleagues. Males are allowed to sleep in *Musholla*, sleeping platforms for unmarried

[5] In 2011 Dr. O'Brien and I undertook to re-interview people about how they are using their aid house and what changes have happened in the two years since we visited in 2009. I was surprised and happy that the people we interviewed remembered and recognised us, and knew why we had interviewed them in 2009 and why we returned to re-interview them in 2011.

men, or in an all-male house. As I am a female I would have needed to stay with a family or couple. However because the houses are crowded I would have been sleeping in a room with other people. Such a lifestyle would be intense and may have affected my working relationships in the village if I was seen to favour or 'belong' with a particular family. In the setting of Aceh, with the intensity of everyday life, the heat, the noise, the smells and the constant attention, I discovered the luxury of having *a room of one's own*. Having a room to myself meant that I had the time and space to research and write and to reflect on the work I was doing.

As a foreign unmarried woman I chose to live in an urban area of Banda Aceh where several other foreigners lived as it was safer and more comfortable. Finding accommodation at a reasonable price was challenging. Within the space of one year I moved 5 times, there were ongoing struggles to keep rent affordable, maintain electricity connection and move household furniture by motorbike from one place to the next. Our house had frequent *mati lampu* (electricity blackouts) which also meant no water, we also had termites eating through the ceiling, flooding and an infestation of ants, which I would have experienced living in the village as well. Problems were such a frequent part of everyday life, electricity black outs happen on a daily basis as different areas of Banda Aceh were turned off in rotation. Often we would arrive home to no electricity from 6pm until 10 or 12pm, although we could use gas for cooking and torches or candles it meant there is no water for washing or using the toilet. Electricity black outs at night make the climatic appropriateness of the houses immediately apparent. There is an assumption that to understand lived experience and everyday practice I need to live in the village (Goldbart and Hustler 2005). Long field work meant that I was able to build rapport with people without living with them. While I lived in the research context, not living in the village allowed me to conceptualise the research as a collaborative dialogue.

I was able to travel to and from the village each day. I chose a village about 45 minutes by motorbike (29km) from the city of Banda Aceh. The road from Banda Aceh to the village had been built by a large INGO and so it was easy and safe to travel. There was a petrol station and coffee shops on the road to the village, the later meant that my assistant and I could have lunch, have a place to discuss the interviews and debrief, also if we needed to wait (for example during prayer time).

I decided not to work in a village relocated from the coast because of the large changes in lifestyle and livelihood because of the relocation. From visiting Neuheun, where many people were relocated from Banda Aceh, I knew that if I wanted to interview people during the day many would not be about, because they were travelling to another location for work. At a practical level this would make interviewing difficult, as I did not feel safe driving country roads at night time.

The distance from Banda Aceh meant that few people commute each day to the city for work, most people work in the fishing or farming industry or have small kiosks. Such livelihoods meant that people were at home or in the village during the day. It was particularly useful that the village was a fishing village because the men in the village fish at night time and spend the day at home, at a coffee shop or 'hanging out' in the village. If people are asleep in the day, they would shut their front door. We never knocked on a closed door, we would only approach people if their door was open. I chose to work in a coastal village, where fishing and farming were the two predominant livelihoods. As fishers work during the night time, rest in the early morning and are about during the day, it was practical and convenient for them to be interviewed during the day time. The same was true of female fishers, who sold fish or prepared fish for sale. These livelihoods also made the village reasonably 'typical' in terms of the type and amount of household income. Chapter 5 provides a detailed description of the case study site.

4.4.2 Qualitative Interviews

The previous section on qualitative research detailed the motivations which drove the research design. In this section I outline the research techniques including qualitative interviews and visual methods which arose from my research goals and motivations. A primary consideration in my choice of using semi-structured interviews was to give participants the opportunity to voice their views and experiences (Mason 2007; Shacklock and Thorp 2005). Semi-structured interviews allow for participants to direct the interview, to raise and explore new ideas (Mason 2007). Qualitative interviews are designed to accommodate the messiness of people's stories; they allow space for the subtle, nuanced contradictions and complexities which form housing experiences.

While research of housing experiences exists for other parts of the world, the lack of material about housing experiences in Aceh due to the previous conflict meant that key themes and ideas were emergent. Open-ended qualitative research questions provide a flexible style of interviewing, where participants can interpret questions and qualify their responses (Mason 2007). Qualitative techniques also allow the interviewer to ask the same question in different ways to gain various perspectives or further explain the questions. This was important when working across more than one language (Coolen 2006). Layering questions can be useful for discussing contradictions which may be hidden in a survey or quantitative interview. For example, a participant might say that the *ruang tamu* (guest space) was not used as a bedroom but also that people regularly sleep in the *ruang tamu.* Verbal interviews also meant that I could pay close attention to language, how words were used and when, which was a central aim of the research. A qualitative interview design is developmental because there is space for the interviewer to respond to the participant and ask questions about the words or ideas they use.

Layering questions builds stories about the general question and allows participants to respond in different ways. As Shacklock and Thorp (2005) argue, people may have multiple, sometimes contradictory, identities, and the task of a qualitative researcher is not to simplify down those divergent ideas but to explore new, unexpected ways of evoking stories. The process of talking-out ideas can be a means of creating knowledge as interviewees articulate responses that they may not have thought consciously about before (Mason 2007). I chose a qualitative strategy which allowed for layering questions and the possibility of conducting more than one interview with the participants, as multiple interviews gave the participants the opportunity to reflect on new ideas and qualify them if needed (Parker 1992). Parker (1992) shows how long interviews, those conducted over more than one interview session, can be beneficial by allowing people to think deeply about the questions being asked and discuss the questions with others between interviews. Parker's (1992) research also reveals how multiple interviews can build rapport, allowing for interviews to develop in depth and consideration. This aspect was especially important because I was identified as a foreigner and participants needed time to become comfortable with me and the interview process.

Drawing on previous research experience in Aceh with Dr. David O'Brien (see Ahmed and O'Brien 2011, O'Brien and Ahmed 2012), and the literature discussed in Chapter 3, I designed an interview guide which outlined topics for the interview (Appendix 2). The guide acted as a prompt during initial interviews. In January 2010 I tested the guide and draft questions at the Indonesian language program[6]. Through that experience I was able to practice and become familiar with the language of the interviews, how to ask questions and interpret responses. Practicing the interviews was important because I needed to be able to listen, interpret and respond to the interviewee[7].

Verbal interviews also provided space for people to ask questions of me, which some were curious to ask because I was a foreigner. At the end of the interviews, or if there was a break in the interview, I would ask the participant if they had any questions they wanted to ask me. This began as an ethical act of respecting their right to ask questions of me (Mason 2007), however it turned into a useful interview technique as people's questions opened up assumptions about my life as a foreigner. For example, where someone asked about my house in Australia or my marital status, discussion about their assumptions about Australians and the differences between Australia and Aceh was sparked. Sharing stories and experiences of Australia was a way of opening the interview and starting up discussions.

First hand interviews were useful for me to ethically work with people in a foreign country who have recently experienced the traumas of both conflict and tsunami. People's willingness to talk with me about those experiences, without my asking about them, encouraged me to continue with the work, but I was conscious of not pushing topics about which people were reluctant to speak, and to be respectful and watch for signs of stress. The decision to use verbal qualitative interviews was based on an awareness of the importance of listening, particularly for those recovering from

[6] I had been taking weekly language classes in Hobart and when I traveled to Aceh in late 2009 I began language lessons at Al Kafe Language School in Banda Aceh. While useful for improving my everyday language the School was unable to assist with grammar and sentence structure which I needed to improve for interviewing. An intensive in-country language program was the most time-efficient and productive way to improve my language ready for interviewing.

[7] In Section 4.4.4 I will discuss why I chose to use a research assistant/translator as well as taking language courses.

the tsunami[8], coupled with the importance of speaking and storytelling in Indonesia (Schultz 2008). In her study with older people in rural Aceh, Palmer (in Palmer et al. 2014) was also surprised at the willingness of her participants to discuss experiences of trauma, even though she had prepared to move the interview onto other topics if they appeared distressed by her questions.

In Indonesia, talking and sharing stories is a valued past time, time and space is made for talking (Schultz 2008). It is not unusual for people who have never met to talk in coffee shops or in the street while waiting for a bus or buying food at the market. In Indonesia plays, stories and poems are performed verbally; people enact stories, using their voice and movement to embody different characters. There is also much word play arising from how words are spoken and emphasised. Verbal interviews also allowed for some fun in the interviews, as word play is common in everyday language and this was an opportunity to build rapport with the participants.

I found when interviewees had long responses to questions, they would take on the role of the story teller. In everyday life experiences are retold as if they are a narrative; people will retell a story by altering their posture, voice and diction to indicate that they are starting off on a story, then pause for a moment and begin. Even when the story may not be positive, and may be difficult to relive, if it is something people have talked about often, thought about often or shared with other people, then the role of the story teller was taken on. In that role, people may be talking, not just about what they have experienced, but also the stories of others which they have merged into their own story.

4.4.3 Participant Recruitment

Participants' ability to make time and be at an agreed location were important considerations for the design of the interviews. Having interviewed households previously with Dr David O'Brien, I was aware of how comfortable people were

[8] Listening as an ethical response to the tsunami trauma became clearer to me the longer I lived in Aceh. I found that people would tell their tsunami story out of the blue. It is something they live with day to day, and talk about day to day. Sitting next to someone on a bus or asking someone on a Monday how their weekend was can prompt them to tell their tsunami story. It is important to listen to such narratives and to respect the experiences.

being interviewed at their house. I was also aware of how difficult it was to schedule interviews with people, particularly at places other than their houses. Even working with professionals in Banda Aceh, it was difficult for people to attend at the agreed time. I was aware from other researchers working in Banda Aceh how difficult it was to fit more than one interview into a day because of the amount of time spent waiting for people to arrive.

Knowing that time posed a difficulty, I chose an informal interview style, whereby interviews were held at or near a house[9]. This interview location was appropriate as male fishers in the villages worked during the night, returned to their house in the early morning and usually rested around the house or in coffee shops from mid-morning to late afternoon. Similarly the women in the village were very busy in the early morning, cooking and getting their children ready for school, and had more time to talk mid-morning to early afternoon before their children came home from school or late-afternoon after the children were home. Transport would have been difficult if the interviews were not carried out in the village, as only a few village members regularly travel outside the village.

Interviewing people at home is a form of trace analysis, in that the tangible experience in sitting and moving from room to room adds to the interview. Both participants and interviewers are able to notice changes in the rooms, different features, materials and patterns of use (Zeisel 2006). The situated-ness of the interviews in people's houses meant that interviews were enriched with experience and context; aspects of the house and sitting in or next to the house could be discussed and reflected upon.

I was also aware from my experience with Dr. David O'Brien and other research colleagues that the flexibility of 'being' in the village and available to talk to people was invaluable. Being in the village allowed future participants to see and observe me interviewing other people and become comfortable with me (Parker 1992). It also meant that if one participant was busy or unavailable, I could be available at another time to speak with them.

[9] Where interviewees worked in coffee shops or fish selling stalls, interviews were held in those locations at non-busy times of day.

In this section I have outlined the basic tenants of qualitative interviews and how I used them in the case study location. Although key informant interviews and focus group interviews are commonly used in post-disaster research (for example see Bryden 2004) I have chosen not to employ them in this study. For the purpose of this research, to investigate inhabitants' experiences of post-disaster housing, I needed to be able to interview participants from a range of ages, genders, households and occupations. Through preliminary interviews I became aware that some participants devalued their experiences in preference to the voice of their political or religious leaders. Furthermore I learnt that the way some INGOs had employed key informant interviews and/or focus group meetings during the reconstruction of post-disaster housing in Aceh had prioritised the voices of those already in positions of power (see chapter 5). This bias is not a weakness of these research methods, but rather a failure in how they were employed. The formal nature of the meetings between INGOs and key informants and/or focus groups in the existing context in Aceh had predominantly encouraged male leaders to participate as representatives for their community. Had I used a key informant approach without a conscious effort to include women, the informants could have been largely male. This issue is not only present in Aceh, as Rose (2007, p.204) argues, feminist research suggests that 'men tend to overestimate their contribution to domestic labour and moreover their version of events often prevails in interviews in which both men and women are together'. Choosing to hold interviews at or near the house, and making the house, rather than the informant the focus of the interview allowed both genders to participate, but importantly enabled females to participate without a male from the village present.

I did find that women would often speak more in interviews on their own or with other women. Sometimes they would sit further away from the interview or would go into the kitchen when their husband was also there. The nature of the field work meant that I was usually able to interview the woman a second time separately from her husband, or with other women. There were exceptions to this rule, where women were more or equally as vocal as their husbands.

The second research technique commonly used in cross-cultural research (see Dohmen 2004), that I chose not to use, is focus group interviews. I was initially interested in focus group interviews for three reasons: as a means of starting

discussion between participants about the research topic; as a means of introducing myself to the village all at once and people becoming comfortable working with me; and as a means of encouraging a range of people to be involved in the project who may have been shy to talk with a foreigner. From initial work with Dr. David O'Brien in Aceh, I realised that the formality of focus groups and the difficulty organising times and places when and where people would turn up is more of an issue in the research context than in Australia, particularly when coupled with participant fatigue. My presence and willingness to talk with everyone meant that people knew why I was there and were able to ask questions of me. I also visited the village leader and the district office to talk to them about the research. Individual interviews meant that there was no pressure to be involved and people could say 'no' one day if they were busy, and accept on another day. I also became more aware of how group dynamics could mean that one or two people dominate focus groups and speak on other people's behalf. This is especially a danger when I am asking people to explain what they think is common sense; people may get bored or disinterested in a group setting (Rose 2007). Nevertheless, I undertook some small group interviews when participants were already grouped together and willing to be interviewed together.

4.4.4 Working with a Research Assistant

A common criticism of working with translators is that the interviews become stilted or too drawn out because a translator is working between two people, and the interview is stopping and starting as one language is translated to another. We were able to avoid that experience because I could speak enough Indonesian to understand the topic and gist of the conversation. I only asked about certain words when the interview had stopped, not in a pause when the interviewee might just be thinking. My listening ability was better than my speaking ability, so the translator's role was more often to reword my questions than to translate from the interviewee to me. Over time interviews grew easier as the language became more familiar. I was also aware of how tiring it can be working between two languages, so I rarely asked my assistant to translate during the interview. Instead, they would only translate if they thought something important was being missed.

Acehnese is the language interviewees' use at home, with family and other community members. I had Acehnese lessons once a week. During these lessons my teacher and I would discuss not just language but also cultural understandings and norms. As part of my education we watched *Empang brut*, a well known Acehnese movie series about the day to day life of Bang Johny, a slapstick comic figure in a rural Acehnese village. Although Acehnese is different from Indonesian, concepts and ideas are more easily translated between these languages than between Acehnese and English. I therefore needed a research assistant who could speak Acehnese and Indonesian. Before starting work with an assistant, I spent time talking through the research aims, the interview guide and ways of asking open-ended questions in order that they understood how I wanted interviews to be run. The assistant's approach and understanding of the research were as critical as my own, because they would be communicating the research in Acehnese to participants who would understand the nuances of the questions and responses.

At the beginning and end of each day my assistant and I would sit down to clarify notes and discuss the interviews. Both assistants (Evie and then Jali) gave me honest, critical and considered feedback after interviews. We had numerous discussions about issues raised during interviews, points of confusion and uncertainty. Relying on the ability of an assistant can be problematic if they do not understand the aim and methods of the research. I hired assistants based on recommendations from fellow researchers and colleagues[10]. I found that the assistants' added depth of understanding and intuition that was of immense benefit to the research. When language was in Acehnese they were able to lead the interview themselves. Building rapport with my assistants was invaluable to the research and to my understandings. The insights and understandings gained through interviews and drawings are directly reflective of Evie's and Jali's considerable abilities as assistants. Working with the same assistants on repeat interviews allowed them to grow to understand the research so that they were better able to offer invaluable insights.

[10] I sought assistants who were from the local area of the village, therefore although not directly knowing people in the village they were 'known' to the village through participants knowing of others in their family and through shared experiences. Local assistants also meant that their Acehnese was local to the area, as the pronunciation of the language varies between districts.

Depending on who was leading the interview, whether it was my assistant or I, the other person would take notes. This gave the participant some space, as they were then only communicating with one person, while the other took notes. It also meant that it was clear for the participant who they were talking to, and conveyed that if they were speaking Acehnese to my assistant that my assistant was listening carefully. It also allowed space for both the participant and the interviewer to reflect on what was being said. Coolen (2006, p.191) describes how such space can allow the participant 'to explore and discover other aspects of the cognitive structure under construction'. This arrangement was particularly useful when interviews were conducted on a bench on the front terrace of the house, as it meant that two people were not twisting to interact with the interviewee. I was aware of how body language can convey interest or disinterest in the participant's thoughts and ideas. Taking notes during an interview can also help to show the interviewee how they are actively creating knowledge and are involved in the process, which can be encouraging (Coolen 2006).

4.4.5 Being Foreign

I have stated above that I was identified as a foreigner[11] by the research participants and that this affected the interviews. Having worked previously in Australia, I did not foresee how influential physical characteristics would be on how I designed and conducted research in the Acehnese context. Learning about the research of male PhD candidates in Aceh and researchers from different countries, I became aware of how physical characteristics also affected the type of information I was given by participants. Being identified as a foreigner had advantages in that I was a novelty, people were curious as to why I was in the village, who I was and where I was from. This novelty factor meant that in some cases it was easier to have first introductions with people, to get over the first hurdle of meeting someone before the interview begins. My foreignness also had the potential to make participants shy or unsure,

[11] In my last week in Aceh in December 2010, I went to the market stall around the corner from my house to buy some bananas. I had been buying fruit and vegetables from that same stall for almost a year. I heard another customer ask the owners why I was there, and whether I was bringing them some aid. The woman who ran the stall said 'no, she is shopping'. She then began to list what I bought each week. This short conversation reminded me that I was still a 'curiosity' and that as a foreigner I was still seen as someone who brings aid.

although this did not appear to be the case. If they were shy or insecure I would step back so that my assistant could take the lead in introducing us and explaining why I was there, the aim of the research and the interview process[12]. Not only was I identified as foreigner, but I was a particular type of foreigner because my skin was seen as white[13]. Comments from other female colleagues with different skin colour suggest that they were identified differently, as were people from other parts of Indonesia. Being a white female allowed me to conduct interviews with men on their own or in a group, which may have been difficult for an Acehnese female, depending on how old they were and whether they were married.

In chapter 5 I will describe Acehnese recent history and the lack of foreigners in Aceh prior to the tsunami. In the post-tsunami environment white foreigners became associated with vast amounts of funding. Participants often asked whether or not I worked for an INGO; some asked several times to double check. Foreigners working as journalists or INGO employees often conducted surveys or questionnaires and posed as researchers. Participant fatigue and disillusionment resulted from people not knowing what happened to the information they provided, and fearing that the information was used to make decisions about INGO programs and funding. I worked to explain who I was and that I was not working for an INGO, while also making clear the potential implications of the research.

My position as a foreigner was viewed as being more powerful or more influential than my position as a PhD student. As a foreigner I was asked to act on people's behalf at INGO offices, because 'as a foreigner I would be given attention and listened to'. I used such requests as opportunities to discuss with participants why they felt I had more power than they did. My foreigner status was thought to be powerful as well as my ability to speak English. As a foreigner I was seen to be able to move in any direction whereas they would see themselves as having to follow protocols within the village and the INGO structure of first seeking the approval of elders or village leaders.

[12] Clearly explaining the research aims and process proved to be valuable both ethically and to engage participants in the research.

[13] Being an Australian was an advantage because Australian families on yachts had previously visited and stayed in the village, which participants said made them feel comfortable talking with an Australian.

I was also a female, unmarried and without children. When participants asked questions about me, such as what age do people marry in Australia and how many children do they have, along with answering the questions this was an opportunity to open discussion about family organisation, when children leave home, and where couples live after they get married in the village. At first I attempted to counter-balance these characteristics by hiring Evie as an assistant who was a married, mother for two. However, later when I worked with Jali[14] who is a young, unmarried male, I discovered that rapport was built through individual personalities rather than through how we presented ourselves. When working with Jali we rode on two motorbikes to avoid the impression that we were a couple[15]. I think Jali and I working together was accepted by the participants because I had previously worked with Evie. The success of the interviews with Jali is also a reflection of his skill as an interviewer. Other male Acehnese researchers were uncomfortable working on their own with a female researcher and entering a house without another male present and interviewing women. Jali was comfortable working with me, conducting interviews with women on their own or in a group of women.

That participants identified me as foreign and different was useful as it meant participants would not presume that I had the same common sense as they did. Participants were willing to discuss words and their meanings, rather than assume that the meanings were self evident. Clearly identifying me as different freed both them and I from thinking that either of us were backwards or odd for talking about what a *dapor* (kitchen) is and how it is used[16]. There would have been advantages if I

[14] My assumption about the influence of Jali's gender on the research did not anticipate the varied and personal way in which people express gender. Jali is intelligent and insightful, he was able to lead a conversation when a participant wanted to direct something to Jali and step back when a participant was directing themselves to me. Jali was comfortable sitting on porches, in front rooms, in cafes and in road side fish stalls talking with all sorts of people, male and female, young and old. He was always respectful to people and because of this they respected him.

[15] White females (irrespective of age or marital status) do get harassed in the capital of Banda Aceh; they are viewed as sexualized as they are not Muslims. Due to the potential for harassment I felt safer working with an assistant in Aceh rather than on my own. I did not encounter any harassment working in the village.

[16] When I was designing the interview guide with Indonesian colleagues, at one point I asked 'If I was doing this research in Australia, I might say if an alien came to earth, how would

had been local to the field because I would have intuitive understood how the participants used spaces and their primary needs. However, intuition can also be difficult if participants assume there is a shared understanding, whereby someone would use the phrase 'this is how it is' to explain their behaviour. Sometimes that is the only available reason, but sometimes that response masks the complexity of reasons behind a decision, or something that is not even seen as a decision. For example, when an interviewee would say 'we did this' an Acehnese or Indonesian would intuitively understand the complexity of reasons behind that decision. I wanted people to think more deeply and start to articulate why. It may be that their articulation surprises them or is spontaneous; it may not be something which is consciously a decision. As Parker (1992) writes, prompting someone to articulate their reasons or meanings may mean that they then spend time thinking on what they have said and when it comes to a second or third interview, they reflect back on their comments with a more thought-through response. Articulating ideas meant that both myself and the participants did not make as many assumptions, because the meanings of words and phrases were discussed.

4.4.6 Visual Methods: Rich Picturing

During the interviews, writing up field notes and the research journal I became aware of the difficulty in getting participants to talk spatially about their housing experiences. Participants were able to make comparisons between houses they had lived in, but articulating experiences proved difficult. For instance, when talking with an older woman about house materials, I asked about the difference between concrete and timber flooring as we were sitting on the concrete floor at the time. She then began to talk about the difference between sitting, sleeping and walking about on concrete and timber floors. She was able to talk for some minutes about these differences, yet she had not raised them herself. To embed the interviews in the houses and to engage with past housing experiences, I decided to trial visual methods. I adopted two techniques: rich picturing and photo elicitation. Visual methods have often been used to tease out new ways of seeing the world and

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you explain this to an alien?' My colleague responded 'we don't talk about aliens, you are enough of an alien, just ask people to explain it to you'.

different understandings (Rose 2007). However, visual materials pose certain challenges in terms of representation, power relations and research ethics.

Using photos or drawings of other houses was not possible because overwhelmingly the material about past housing in Aceh was destroyed by the tsunami and thus I did not want to make assumptions about what their houses had been like.

> [Rich picturing's] rationale lies in the fact that the complexity of human affairs is always a complexity of multiple interacting relationships; and pictures are a better medium than linear prose for expressing relationships. Pictures can be taken in as a whole and help to encourage holistic rather than reductionist thinking about a situation. (Checkland 2000, p.22)

I began by trialling rich picturing with Acehnese colleagues at the Aceh Research Training Institute (ARTI) and my language teacher Desi. I noticed a greater willingness to be engaged and interested in the interview when people were drawing and explaining their drawing to me. I also noticed that it was easier to talk about houses which have changed and been adapted over time through drawings, as people where able to mark how the house was changed, using what materials, by whom and how long it took. It was much easier to 'get inside' and have a deeper understanding of the houses when explained through drawings. These test interviews also taught me that the drawings could not speak for themselves – shapes, lines and words that didn't mean much in themselves were easy to misinterpret when they were talked through in an interview. Research into sketched drawings and maps by Lynch (1960) found that multi-participant drawings of a place can share elements, but also that subtle differences may be significant. Two parallel lines could have meant either that the first was a mistake, a thick wall or a veranda. I also became aware that proportions in the house may be skewed depending on which elements were more or less important to the drawers.

Jali, my assistant and a local, was at first sceptical that anyone would want to draw. If drawing was unfamiliar to people, in contrast to talking, they may be disinterested or feel embarrassed or unable to draw (Checkland 2000). We used two techniques to encourage people to draw; it was a collaborative approach. In the first technique, I would start a rough sketch that would show people that the drawing did not need to

be perfect or artistic, merely a draft. Once people realised that they did not have to be artistic, they also realised that they knew far more than I did and could see that I was drawing something wrong. In the second technique, the person we were interviewing was busy with their hands, so they offered to talk us through the drawing. Jali drew while the person explained different features, correcting Jali if something was drawn incorrectly. The second technique only worked because Jali intuitively knew better than I the proportions and positioning of how things might have been; therefore it was not frustrating for the participant as it might have been if they were to explain to a foreigner such as myself.

During the drawing interviews, three people in the village were identified, by themselves or others, as artistic. We approached the three separately and asked whether they would be interested in spending a longer time drawing the village. I wrote a short introduction to each on the sketch book cover so that they could reflect on what they were doing during the drawings. The three artists had just over a week to make some drawings; each seemed happy with their work. I will return the original works to them once I have had them professionally copied.

Drawings were useful in creating space in the interviews for reflection and contemplation, both while the drawing was being done and reading it once it was finished. The drawing process, reflecting back on memories, was an active task that raised more detailed and thorough memories than the interviews. Although the drawing interviews may still have had stories in them, the language of the interviews was different as the stories may not have been consciously thought about or discussed before.

Drawing interviews enabled participants to engage with past houses in a way that verbal interviews had not. The process of drawing-out brought forth experiences and feelings about different aspects of the house. People were able to talk about where they spent their time, how they spent their days, what they had done in different spaces, who they had been with, which parts of the house they most liked and why they felt that way. The drawing process was grounded in a way the interviews were not. It gave people something practical to do, to work on, and to think about. It was easier in a way to understand the task of drawing a house than simply talking around

the ideas of the house. Participants were asked to draw both their house as well as making maps of where that house sat within the past village.

In a separate study of houses in Banda Aceh by a researcher from National University of Singapore, spaces were coloured according to the activities that happened there. While interesting, that method over simplified mixed use spaces and reduced down the complex activities to names such as kitchen or bedroom. My own observation of the use of that same house, during work with Dr. O'Brien, pointed to complex uses of spaces (see Ahmed and O'Brien 2011, O'Brien and Ahmed 2012).

4.4.7 Visual Methods: Photographic-elicitation

Photography was initially used to record aspects of the house that participants discussed or I observed. Participants and I would walk the house discussing different elements as we went. Photography was a form of trace analysis, in that I was able to look at detail of the house (see Zeisel 2006). It meant that the process was slowed down as the participant and I discussed particular aspects of the house and I photographed that aspect. Photography meant that a room wasn't just a *ruang tamu* (guest room) rather it was a space with white walls, orange curtains, cracked tiles, ill-fitting doors and so forth. It allowed me to notice if a door didn't fit properly, where a wall didn't meet the roof, where one type of material finished and another started, how colour and paint were used. Photography made the interview process tangible in that different features were identified and discussed.

However, I was aware that photography can be problematic, particularly in situations where the photograph is designed to speak about a 'truth' or representation of a 'truth' (Rose 2007). The decision to use photo-elicitation arose from ethical concerns about using photographs in research. Photographs can turn one person into a symbol or abstraction of a type or person; what is photographed becomes a representation (Rose 2007). Rose (2007) argues that social research often has photographs to emphasis a point in the text or to tell a story faster than words, however there is a need to carefully consider how they are made, what they contain and how they are used. To avoid objectification, the drawings and photos used in this research are explained through participants' voices and reasonings.

I decided that if I was to use photos in my research, other than for my own records of interview topics, I needed to engage the participants in creating their own photos, to involve people in telling their own story. Adopting photo-elicitation was a means for the participants to take ownership of the photographs and the story they told. This decision was particularly important in a village where people do not have access to cameras on a regular basis[17]. I chose five families who had been interviewed several times, seemed to understand the research topic well and who may be interested in being more actively involved. Jali and I sat with each family, explained the idea and asked whether they were interested in participating. Some were reluctant at first because they had never used a camera before, they were worried about breaking it and how much it would cost. I had bought five disposable cameras[18] in Malaysia as they were unavailable in Aceh. Although the disposable cameras were still relatively expensive for families in the village, the idea that the cameras were returnable (in the sense that they were for one use and then sent back) made some people more comfortable with using them. We explained how to use the cameras and suggested that the families use half the photos for what I asked and half for anything they would like. As well as written instructions of how to use the camera, I wrote a list of suggestions as to what they could use the camera for, these included taking photos of everyday actives and people in their family doing those activities. After two weeks the cameras were collected. There was nowhere to get the disposable camera films developed in Aceh so I was only able to return the photos to participants when I returned to Aceh in May 2011 to attend a conference. When returning the photos,

[17] Rose (2007) argues that one way of assessing visual material culture is to observe how visual materials are used and positioned in a home. I noticed that photos in the guest room were often of children. These were formal photos taken by a studio with a formal backdrop and sometimes graphical illustrations. The number of photos ranged to around five, sometimes of the same person. The photos were usually framed and fixed high up on the wall. This observation, along with participants' comments, told me that camera use was infrequent, a formal marker of the passage of time as children grew up (Rose 2007). Interestingly the disposable cameras were not used in that way to make formal images of children.

[18] I needed to ask how the materials I chose affected the research, how disposable cameras affected the use of the camera, the type of photos that were taken and by whom. In the research context I was working in, disposable cameras were not seen as 'for children only' or as devaluing the photos. Most people had not used a camera before so the camera was a novelty. Having a cardboard case and being reusable made people feel more comfortable using it – it wasn't an expensive piece of equipment that they would be afraid of breaking

participants were interviewed about why they had chosen to take the photos and what the photos showed.

4.4.8 Data Analysis

At the beginning of interviews I asked permission from the participants to record them. During the field research I hired a transcriber who could speak Acehnese, Indonesian and English. I carefully explained that I wanted the interview tapes transcribed as spoken, not translated, because I wanted to be able to understand when participants had used Indonesian and when they had used English. I also knew that it was much easier to translate from Acehnese to Indonesian without losing as much of the nuance of what is said, than it is to translate from Acehnese to English. Unfortunately, although I explained this verbally and in a written contract, the first transcriber I hired translated the tape into English. This transcript was not useful for me because it was a summarised version of the interview, that summary was similar to what I had understood by being part of the interview. Based on that transcript style, the detail of the interview was lost. Following this experience I hired a second transcriber. Although this transcriber was able to transcribe the tapes in the language spoken, this process took a considerable amount of time. Communicating with this transcriber was difficult as by this stage my field work was finished in Aceh and I had returned to Australia. Due to the slow turn around for this transcriber I hired four more transcribers, I found these transcribers through an Acehnese friend who was studying in Australia. Once I had received some transcripts I sent them to a translator who I had known when I was based in Aceh. I hired the translator to translate the text that was in Acehnese to Indonesian. This process ensured the translation was as close as possible to the original spoken Acehnese. When I received these transcripts I entered them into NVivo. I decided to use NVivo as a data management tool, because I had 47 transcripts of interviews ranging from 20 minutes to over an hour. Due to the volume of interviews I needed some way of organising them. My first step in analysing the interviews was to read each interview, making notes on the content of the interview, highlighting issues, quotes or ideas that struck me, and then writing a short summary of the interview. It took me considerable time to read through the interviews and to understand them, because I needed to understand not just what was being said but how it related to what the participant had said in the rest

of the interview and how this related to other interviews. I spent a lot of time referring to the dictionary to clarify and understand exactly what the participants had said. Although I used NVivo to manage the interview documents, I often used word documents when I was reading the interview transcripts because of the difficulty of working with text in more than one language. It was not possible to ask NVivo to search for every mention of a particular word/name or phrase because the spelling of the same word was different between transcribers and sometimes within one interview (this also made translating the text quite difficult at times). Participants' names for example were spelt differently between interviews or shortened. Because I wanted the data analysis process to be iterative and to find emergent themes from the participant's interviews, I did not have specific questions I was trying to answer in reading the interview transcripts. I sorted, read, made notes and comments, re-read, made more notes and read again until some core arguments began to emerge from the transcripts. At first I did not know how these arguments and ideas were related to each other. During this process I regretted no longer being in Aceh, at the ICAIOS office where there had been other PhD students who would have understood this process. In reading the Acehnese and Indonesian texts on a day to day basis, I then found it very difficult to switch to writing clear sentences in English, let alone clearly articulating an argument. It has taken me a long time from being immersed in the interview texts to being able to step back and identify which stories needed to be told, how to tell them and in which order. I found it difficult to identify where crucial arguments within the story were missing because through close reading of the interview texts they had become common sense for me. Being immersed in the texts allowed me to intimately know the transcripts but not to see what my reader was missing. In writing the data analysis chapters (Chapters 6 to 9), I first wrote chronologically, according to the stages of reconstruction. However, during the writing and ongoing analysis four themes emerged which could not be retold chronologically, therefore Chapter 6 is centred on the participants' senses of place within their village landscape, Chapter 7 focuses on how the processes of relocation and reconstruction have affected their home place, Chapter 8 moves from the landscape scale to the scale of the house and how participants inhabit their post-disaster house, while Chapter 9 discusses the participants' roles in the reconstruction process and how their capacities have been affected by the NGOs approach to reconstruction. The next chapter, Chapter 5, is designed to provide a solid grounding

for understanding these data analysis chapters by providing the context of the case study and reconstruction in Aceh.

4.4.9 Limitations of the Methods

I considered selecting more than one case study in order to compare the inhabitants' experiences of different post-disaster housing programs. For example, the housing program of UN-Habitat in the neighbouring village had involved community workshops to teach the community how to build masonry earthquake resistant houses. Another interesting example was, the Uplink program in Lampuuk which allowed households to choose their own building materials and builders, and allowed them to rebuild on their own land. This program was interesting because extended families were able to cluster their post-disaster houses together to create one extended house rather than separate individual houses. Furthermore households were able to contribute their own funds to buy alternative or higher quality materials. However, both these programs were unique rather than 'the norm' and one of the key questions which struck me when I was examining possible case study sites was why large scale INGOs with experience in post-disaster programs would continue to a) resettle houses and b) implement housing programs which replicated one house design across all sites when existing research suggested that this approach was inappropriate and potentially detrimental to the inhabitants livelihoods. In response to this question I could have approached INGOs or the BRR, however I wanted to understand the benefits and weaknesses of this housing model for the inhabitants.

This research was designed with the core aim of learning from inhabitants about their experiences during the construction and inhabitation of post-disaster houses. There is already research (Jha et al. 2010, Kreimer 1978 and 1980, Lyons et al., 2010b) centred on how aid organisations approach the task of delivering housing following a disaster, including post-disaster housing research in Aceh (see for example da Silva and Batchelor 2010). I intentionally limited my focus to the inhabitants of post-disaster housing because of the lack of research from this perspective. To meet my aim for an in-depth, qualitative inquiry, I needed to bound my research by working in one village. This decision meant that my research cannot necessarily be considered representative of the work of either Oxfam or World Vision in building post-disaster houses in Aceh. To rigorously examine these organisations' approaches more

generally would have required different research aims, design and methods. Of the houses built in the case study village, 163 were built by World Vision and 50 were built by Oxfam. To put that figure in context, 125,000 post-disaster houses were built in Aceh following the 2004 Indian Ocean tsunami. World Vision was responsible for building 3,566 houses (World Vision, n.d). Oxfam built 1,566 permanent houses in addition to 549 semi-permanent houses which were renovated or replaced with permanent houses (Oxfam, 2008). These figures indicate that the case study in this research is not representative of either INGO's work in Aceh.

Significant externalities affected how the housing reconstruction was managed by the INGOs. First, the INGOs had very little control or choice over when their project began, because some housing projects were allocated to INGOs by the BRR, while others the INGO facilitated themselves and applied to the BRR to build. It was not simply that all INGOs were allocated the same number of housing projects at once and therefore those that began in May were managed better than those that began in December. Second, even if all housing projects had been allocated at once, the start date for beginning reconstruction does not indicate that one NGO was necessarily more effective or efficient. A faster start date could mean anything from the NGO not conducting any community meetings, to the housing site being located next door to the NGO office and therefore facilitating faster communication. It could even mean that the site received very little tsunami damage and so the process of identifying land boundaries was faster than a site with considerable damage. Third, there was significant variation between housing projects in Aceh in terms of the logistical difficulties of accessing sites, sourcing building materials, transporting materials to the sites as well as the variation between staff members managing reconstruction projects on the ground, the variation between contractors and local communities mean that the case study site for this research cannot be taken as representative of these INGOs practices in Aceh. Therefore these two projects cannot be compared in terms of the timeline for reconstruction because there were significant external factors affecting this timeline. It would be misleading to compare the two housing programs because there are too many factors outside the control of either the INGOs or the village to be able to compare them or to attribute the timeline for the rebuilding of these houses to the overall performance of either INGO in Aceh.

4.5 Conclusion

In this chapter, I have detailed the theoretical paradigm, research strategy and techniques used in this thesis. I began by examining the theory of social constructionism as a way to explore the creation of meaning through socio-cultural processes. I situated the research in the field of qualitative research to illustrate the complex, detailed nature of interactions between people and houses. In this research it is useful to learn in depth, rich, diverse, contextual information about people's housing experiences. Such information requires a qualitative research strategy that allows for new and varied information to be gathered.

I explored ethnographic approaches to explain long field work engagement and make explicit the ethical concerns for researchers in foreign locations. I examined case study approaches and the selection of the particular case study in this thesis. These steps were taken before I outlined use of crystallisation in employing interview and visual methods.

5. Aceh Case Study

5.1 Introduction

This chapter provides the context needed for the following chapters which will detail my research findings. I begin with a brief introduction to the political context in Aceh prior to the tsunami. The situation in Aceh was complex: Acehnese people were isolated due to the ongoing conflict between the Acehnese Freedom Fighters (GAM) and the Indonesian military. I then consider the extent of aid available following the disaster for the recovery effort in Aceh. I outline the initial emergency period and the types of shelter available to those affected by the disaster, before describing the role of the national agency created to coordinate the recovery and reconstruction process (the BRR). I provide examples to illustrate the range of reconstruction programs and houses built by INGOs in Aceh. Section 5.6 is centred on the specific village that provides the case study context for the research. This section provides an overview of the case study site and the aid available for those in the village.

5.2 Conflict in Aceh

When the Indian Ocean earthquake and tsunamis struck Aceh in December 2004 there had been conflict for almost three decades in the province between GAM, who wanted self governance in Aceh, and the Indonesian military (TNI) (Aspinal 2009a). The prolonged nature and the atrocities committed by both sides had created complex living conditions in which people were unable to move freely and were restricted by night-time curfews. Family members were caught on both sides of the conflict. Hedman (2009) outlines the forced displacement of Acehnese people due to the conflict, she estimates that more than 1800 people were displaced at the time of the tsunami with up to 350,000 people having experienced displacement since 1998. Up to 26,000 houses had been burnt during the conflict in addition to community buildings and schools (Hedman 2009). Many thousands of people were missing, farming land and houses had been destroyed and the livelihoods of teachers, farmers and government employees were at risk (Aspinal 2009b). ‘Whilst Aceh’s GDP grew, the people of Aceh became dramatically poorer: between 1980 and 2002 poverty in the province increased by 239 per cent’ (Brown cited in Oxfam 2006a, p.2). Prior to

the tsunami, attempts at peace negotiations had failed. However in 2005, with support from the international community, a peace agreement was signed in Helsinki, which has since held. Hyndman (2008) notes the impact of prolonged conflict on the people and their recovery from the disaster in both Sri Lanka and Aceh.

The preceding State of Emergency in Aceh prior to the tsunami had heavily restricted access not only of foreign and national NGOs and journalists, but of lay foreigners married to Acehnese residents. These restrictions meant that Acehnese people were unused to working with foreigners, including aid organisations. Oxfam for example, which is an experienced aid organisation with a wealth of post-disaster experience, did not have a working relationship with a local organisation prior to the tsunami (Oxfam 2008). When aid organisations arrived in Aceh they had to contend not only with the logistical problems of a province faced with an extreme, widespread disaster, but also a situation of ongoing conflict for the first eight months following the tsunami. Foreign military including Australian and American armed forces worked in Aceh during the immediate emergency efforts. While coordination would normally be the role of the Indonesian military, this was would have been potentially life threatening for those who could be identified as GAM fighters (until August 2005), rendering them unable to access services controlled by the Indonesian military. There was potential for tension to erupt due to the restrictions on aid directed only to those land owners whose houses had been destroyed by the earthquake-tsunamis and not to those affected by the conflict (United Nations Humanitarian Information Centre 2005a).

5.3 Aid in Aceh following the 2004 Indian Ocean Tsunami

The international response to the 2004 Indian Ocean Tsunami was unprecedented for several reasons. Firstly, there was an unprecedented level of funding that was made available, and secondly, an unusually high proportion of that funding came from general public donations. A report by Flint and Goyder (2006, p.7) for the Tsunami Evaluation Coalition (a coalition of UN agencies, international development banks and INGOs) states that this was the largest and fastest financial response to a ‘natural disaster’. In particular, private donations contributed 40% of the funding (up from 15% for other disasters): ‘[i]t was the private response that meant that the international response was, for once, sufficient (together with substantial local

resources) to cover both relief and reconstruction adequately' (Flint and Goyder 2006, p.8). Sufficient funding was available for building housing in Aceh. The unusually high amount of public donations is also evident in Oxfam's International Tsunami Fund – of the USD$294 million raised, 90% came from public donations (Oxfam 2008). The high proportion of public contributions and the circumstances of the event itself attracted considerable media attention to the aid programs (Hedman 2009). Samuels (2013, p.10) argues that the gift of international aid, and attention, served to inspire in Acehnese people a sense that Aceh had 'a-place-in-the-world'.

In the aftermath of the 2004 Asian tsunami, 400 aid organisations from around the world arrived in Aceh; more than 100 would undertake to build housing. When aid efforts began, more than 500,000 people were without shelter, medical supplies, food, water and sanitation, and few Acehnese people spoke English. The challenge for rebuilding Aceh was immense; there was loss of roads, transport and communication, damage to soils, fish ponds, in addition to the loss of local leadership, government staff, and documentation (UNEP 2005). The prospect of rebuilding with wood was fraught due to the amount of material needed. There were not sufficient supplies of legal, sustainable timber in Indonesia, and there was a significant concern that the demand for timber would lead to illegal logging particularly in the ecologically significant Gunung Leuser area (UNEP 2005). In Aceh, reconstruction agencies were faced with a difficult challenge because: (i) they had little information about populations, housing, services and facilities and resources in Aceh, and (ii) most did not have had established contacts or a history of working in the region. Yet five years after the tsunami struck, more than 100,000 houses had been completed.

The diversity of aid agencies working in Aceh meant there was significant variation in the experience and knowledge at both institutional as well as staffing levels. These organisations had varied resources and funds, and some were entirely new to post-disaster situations. The number and variety of organisations had the potential to lead to heavy competition for resources, local staff, experienced international staff and conflict over who was operating where. Furthermore many organisations did not

have experience in post-disaster housing projects. However, although 140[19] organisations were involved in providing housing, almost two thirds of the houses built in Aceh (72% or 65,238 houses) were built by 29 of them, with each of these responsible for more than 1,000 houses (Sudiatmo et al. 2009, p.63). Therefore, although there was diversity between the organisations building houses, the majority of houses were built by large scale organisation with experience in post-disaster and conflict zones.

During the initial emergency period, aid organisations reported that people were beginning to rebuild and wanted to re-establish their livelihoods. Quantitative research was conducted in Aceh in early 2005 to find out where people were and what their needs and priorities were by both the Fritz Institute (2005) and the International Organisation for Migration (IOM) (2005). The United Nations Humanitarian Information Centre was created as a central point for coordinating information for aid organisations and Acehnese people (UNHIC 2005a). There was considerable confusion among aid organisations and Acehnese people about who was going to do what, where and when (UNHIC 2005b). Due to this confusion, aid organisations were concerned that programs were duplicated in some areas and not reaching people in others (UNHIC 2005a). The following sections consider the phases of reconstruction from emergency shelter through to permanent housing, and the roles of both the aid organisations and the people affected by the disaster.

5.4 Emergency and Temporary Shelter

The process of housing people and providing shelter may involve several phases, in the initial emergency phase those affected by the disaster sought their own shelter before receiving emergency tents (Section 5.4.1). In the second phase people moved from tents into temporary accommodation which involved building their own shelter, barracks built by the Indonesian Government (Section 5.4.2), aid shelters (Section 5.4.3) donated to individual households or seeking refuge with family. I have chosen to write separately about temporary and transitional shelters because they offered households different living conditions and opportunities. In the BRR's diagram of

[19] This figure is given by the BRR, however other sources put the number of organizations involved in housing at 100.

the phases of reconstruction they show the third phase as a holistic reconstruction of housing and settlements, including social and cultural facilitates, public buildings, infrastructure services and economic development (Figure 5.1). In this chapter I will discuss identifying land ownership, village mapping and settlement planning before discussing housing design and reconstruction.

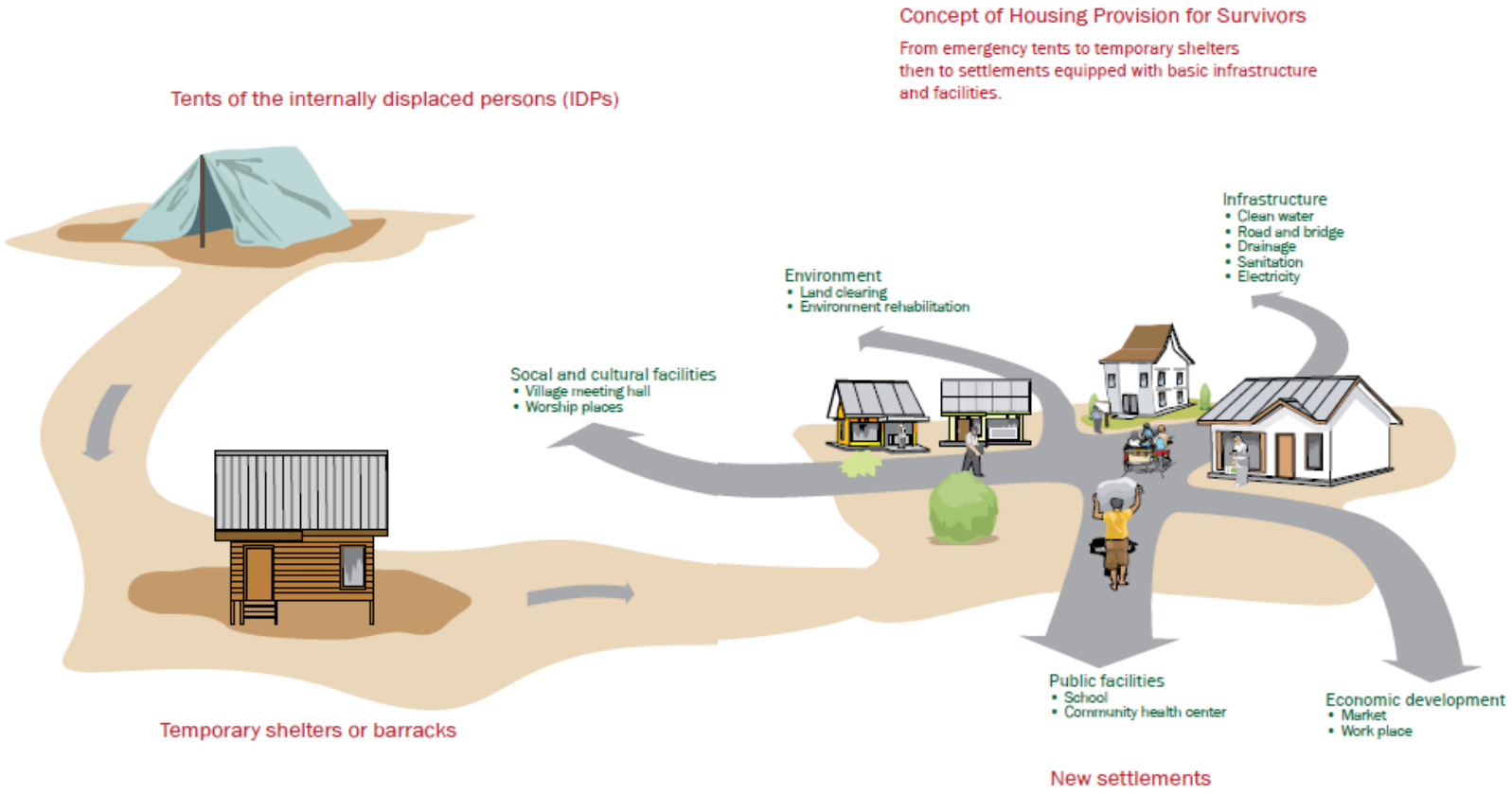

Figure 5.1 Map of post-disaster shelter to housing pathway developed by BRR (Sudiatmo et al. 2009, p.24-25).

5.4.1 Emergency Shelter

Figure 5.2 People at a tent camp East Coast of Aceh (Headman 2005 p.7).

A study of 500 participants in Aceh by local researchers for the Fritz Institute (2005, p.3) found that immediate relief in the first 48 hours following the earthquake-tsunamis overwhelmingly came from Acehnese people:

> In Indonesia, the assistance provided by private individuals far-outpaced any other provider in every category including rescue services, burial of the dead, provision of food, water, clothing, shelter, medical care and counselling. The government, corporations, international NGOs, local NGOs, and religious organisations were practically absent in comparison.

By contrast, in India the government played a key role in providing emergency assistance and burying the dead in the initial 48 hours following the tsunami. When asked about the first 60 days following the tsunami, people in Aceh were the least satisfied with services in comparison to those in Sri Lanka and India (Fritz Institute 2005). In March 2005, two months after the disaster, 55% of people in Aceh had received emergency shelter in the form of tents (IOM 2005). However, by this point, participants of the IOM study responded that they were ready for a more durable form of shelter (IOM 2005). IOM's (2005) research found that by March 2005 39% of participants had built temporary shelters from materials they had collected or found themselves, 17% had repaired their own house using found materials, while 21% of people have evacuated and 9% had done nothing. IOM (2005) found that

seeking shelter with relatives was a secondary rather than primary response to the disaster –people had attempted to repair their house or build a temporary shelter, or had been staying in an emergency tent before they sought shelter with relatives.

During the initial emergency period, INGOs set up camps offering medical assistance food and water for Acehnese people. These camps were successful in preventing secondary disasters such as health related diseases which could have spread due to the lack of clean water and sanitation. However, more than six months after the disaster occurred, the United Nations Humanitarian Information Centre (2005a) reported that there remained considerable confusion about where people were sheltering, there was a lack of mapping data about what assistance people needed, and due to these issues those who required assistance were mobile (moving between sites) which made it difficult for the INGOs to assess their needs. Although half a year had passed since the disaster, food was still the primary form of assistance (UNHIC 2005a).

> Six months after the tragedy of the tsunami, however, despite tremendous efforts of local, national and international actors, the relief and rehabilitation process is fraught with difficulties. People and communities are still living in makeshift, uninhabitable shelters; compensation is inadequate and has not reached many of the affected; health and nutrition needs are being compromised; livelihood restoration is slow; and safety and security, particularly of women and girls, is under threat (Batra and Chaudhry 2005, p. 6).

These difficulties were faced by both the NGOs and those affected by the disaster.

5.4.2 Temporary Shelters

The Indonesian Government's initial strategy was to relocate people away from areas at risk of tsunami: '[The] Chief of the Indonesian Military asked that the relocation process be accelerated because it relates to the dignity of Indonesia' (Pendopo Meeting Minutes, Banda Aceh, January 9, 2005, cited in Headman 2005, p.1). Their strategy was to construct barracks to temporarily re-house people (Figure 5.3). The Government proposed to build around 400 barracks for 50,000 people within the first two months of the disaster (UNEP 2005). They planned to house 40,000 additional

people in prefabricated houses and 320,000 in army tents, with these people expected to be relocated in February 2005 (UNEP 2005). In a census in February 2005 the Government estimated that a further 260,000 people were staying with host families (UNEP 2005).

Figure 5.3 A barracks constructed for people displaced by the tsunami in Aceh (Sudiatmo et al. 2009, p.8).

Although barracks provided more protection from the elements than emergency tents, they were not popular among people affected by the disaster because of the lack of privacy and facilities (IOM 2005). Furthermore, the barracks echoed the military camps that had been built for Acehnese people forcibly displaced during the conflict (Hedman 2009). When Hedman (2005) visited barracks in Lhok Nga (a coastal community around half an hour by road from the capital of Banda Aceh) she found that barracks were occupied by the construction workers building them, and at the time there was only one woman and her children living in the barracks. A key concern within many countries affected by the tsunami was the security of women, girls and children and the rights of women who were widowed either before or because of the tsunami (Hyndman 2008). Hyndman (2008), who was writing about women's experiences in Sri Lanka, particularly those of widows before and after the tsunami, notes their fears for their children whether or not they remarry. The security and privacy of women in the barracks was a key concern (UNHIC 2005a). INGOs in

early 2005 raised concerns about the services in barracks because they reported confusion over who was responsible for providing those services (UNHIC 2005a).

Between 100 (UNEP 2005) and 190 (Sudiatmo et al. 2009) barracks were constructed in Aceh. As Sudiatmo et al. (2009) state, some of these sites were on military or Government owned land. These locations were not accessible to everyone given the ongoing conflict in Aceh. The occupancy of barracks was mixed, including people displaced by conflict as well as the tsunami. People living in the barracks were not necessarily from the area where the barracks were located or in barracks close to other people from their original community (Sudiatmo et al. 2009). Those living in barracks received *jadup* (money for basic needs such as rice) (Sudiatmo et al. 2009). Sudiatmo et al. (2009) acknowledge that living conditions in the barracks were highly dependent on the leadership and logistical capacity of the district leaders to seek and supply aid. In late 2006, people living in barracks demonstrated in Banda Aceh. They were asking for alternative housing aid for people who did not have legal land title prior to the tsunami (Oxfam 2006a), yet some people were still living in barracks well into 2009.

5.4.3 Transitional Shelter

In contrast to barracks which were provided in a fixed location, INGOs provided transitional or temporary shelters to households. Temporary shelters have many advantages over the barracks: firstly they can be built and dismantled by a small number of people or even by one person; secondly the materials are able to be transported by motorbike or other vehicle; thirdly they can be located on people's own land; and fourthly they can be adapted by reusing found materials to suit the inhabitants. Importantly, they offered households the chance to return to their land and some privacy.

A quantitative survey of 2,111 people in March 2005 found that participants had received short term assistance in the form of food, water, sanitation, clothing, medical supplies, but their key priority was now capital to re-establish livelihoods so they could support themselves (IOM 2005). The IOM (2005) report identifies a significant gap between the participants' priority to regain their ability to support themselves and the type of aid they were receiving. The participants reported that they wanted to live in or close to their pre-tsunami location so that they could

continue their pre-tsunami livelihoods and maintain their 'ancestral bonds' with that location (IOM 2005). More than half were unable to re-establish livelihoods and were reliant on external assistance. Stable income was their key concern yet only 4% had received livelihood assistance. IOM's research (2005, p.19) found that participants' intentions to restart their livelihood were split, 48% were seeking or engaged in work while 42% were not. Of the 48% seeking work, three quarters were taking any work that was available and while the rest had borrowed capital to start a business.

Figure 5.4 A Red Cross temporary shelter prior to timber being supplied (Steinberg 2007, p.156) (left).

Figure 5.5 A temporary shelter and permanent house financed by Asian Development Bank (Steinberg 2007, p.159) (right).

When cash for work programs (CFW) did occur, they were an opportunity for the community to earn money through recovery programs. Mercy Corp conducted research to find out how CFW programs affect peoples' abilities to return to their land and the indirect effects of livelihood programs on housing reconstruction (Doocy et al. 2006). Doocy et al (2006) argue that CFW programs in Aceh benefited both individual and community capacities because they provided the majority of household income (93%) and empowered people by supporting their efforts to resume productive activities and facilitating their return to their original location.

IOM (2005) strongly recommended providing information about aid programs to communities so that they could prepare and participate in shelter assistance. IOM found that 38% of participants preferred to receive construction materials such as concrete, bricks and wood, compared to 28% who wanted transitional houses, 15% wanted to stay in the barracks and only 18% wanted permanent houses (IOM 2005).

During focus group interviews participants stressed the need for durable materials and structures because of continued earthquakes. Other concerns included toilets, clean water, proximity to services such as schools and mosques, and protection from flooding (IOM 2005). Local researchers conducted surveys nine months after the tsunami occurred and found that none of the participants had received permanent shelter (Fritz Institute 2005). The majority of participants (78%) were in some form of temporary shelter, and the majority (70%) of those shelters were provided by INGOs (Fritz Institute 2005).

At the time of field research these shelters were still in use throughout Aceh either as individual structures or adapted onto houses. Importantly, the quality of the materials meant that they have been durable and are able to be re-used. Shelters have also been an asset for households in that if they needed a lump sum of money they are able to sell the shelter. The price of such shelters has increased substantially.

5.5 The BRR and Stages of Reconstruction

Within weeks of the disaster, INGOs were encouraged to use a people-centred approach to reconstruction in Aceh. In January 2005 a Framework for Recovery and Reconstruction was released by the Indonesian Government (through *Badan Perencanaan Pembangunan Nasional*, the National Planning Development Board) and the international donor community which established 'the need for a people centred and participative process' (IOM 2005, p.7). The reconstruction effort in Aceh was widely dubbed 'Build Back Better', which conveyed the notion that both the process and outcomes of rebuilding needed to improve on what was there before the tsunami. The motto was a means of linking the goals of reconstruction to those of development: '[b]etter here is not a measurement of physical infrastructure or clever technical know-how…better means to ensure the continuity of development' (Sudiatmo et al. 2009, p.17).

In April 2005 the Indonesian Government created the BRR. The role of the BRR was to 'coordinate and jointly implement a community-driven recovery program for Aceh and Nias' (Sudiatmo et al. 2009, p.ix). BRR documents stress the importance of transparency, accountability, leadership, coordination and a people-centred approach (Sudiatmo et al. 2009, p.ix). They also contain the concept that rebuilding will be

'better and safer' than prior to the tsunami. The BRR estimated that almost 140,000 houses needed to be rebuilt or repaired (Sudiatmo et al. 2009, p.ix), its mandate was to oversee this work for four years from April 2005 until April 2009.

However, there was considerable variation in how both the BRR and the INGOs involved in reconstruction interpreted the extent of participation. Some organisations interpreted participation as holding community meetings, other organisations met with prominent members of the community such as religious or village leaders, yet all termed their approach community consultation. The BRR itself offers a confusing explanation of participation, for example:

> The participative process used was also a plus because it positioned the community as the main actors in planning the development in their regions ... those who participated were not only prominent members of the community and officials of the sub-districts/districts, but also members of NGOs and international agencies who were working in these areas (Sudiatmo et al. 2009, p.39).

This description of participation is confusing, on the one hand it suggests that the community were involved and on the other it suggests that only those already in a leadership position participated. Furthermore, in the following sections I describe how participation differed not only between organisations, but also between stages of reconstruction.

5.5.1 Mapping Land Ownership: A Participatory Process

Identifying and confirming pre-tsunami land boundaries had the potential to be a complicated and divisive issue. The majority of land in Aceh was owned through traditional inheritance customs rather than official registration. The Australian Indonesian Partnership for Reconstruction and Development (AIPRD 2005) estimated that 225,000 plots of land without official land title were affected by the tsunami. Furthermore, official land title documents and the buildings which housed them were hit by the tsunami, in addition to the loss of the people who had managed them.

AIPRD (2005) reports that there were 90,000 certificates of land title damaged by the tsunami, however through the assistance of the Japanese Government it was expected than 75,000 could be recovered. Three quarters of the land affected by the tsunami in Aceh was owned according to traditional law, only one quarter was officially registered with the Indonesian Government, and even those that were registered may have been out of date (Oxfam 2006a).

The physical effects of the disaster in submerging and transforming the landscape had made some plots uninhabitable and pre-tsunami boundaries indistinguishable (AIPRD 2005). Finally the lack of existing up-to-date and available maps severely hampered the efforts of INGOs to identify where people had lived prior to the tsunami (AIPRD 2005). AIPRD reported on the mapping situation and projects underway to provide satellite and GIS data for aid organisations, they noted a lack of facilities and coordination to make this vital information available to other organisations who needed it, let alone to the affected communities who could have used it for village planning. 'There is significant confusion and concern by public and international development assistance agencies and NGOs about the status of mapping in Aceh' (AIPRD 2005, p.1). When I first visited Aceh in 2009 it was possible to buy a map of the urban areas of Banda Aceh from stationary shops, but there were no maps commercially available for other areas. Today it is possible to use Google Earth to view maps, houses and roads in Aceh, but this was possible when I began research in 2009. As Sudiatmo et al. (2009) state there was little to no reliable mapping other than community mapping, which was publicly available, during the early phases of planning and reconstruction. GIS later proved invaluable as an auditing tool.

Therefore authorities involved in the rebuilding were left with no choice but to engage communities in village mapping to gain a consensus on who lived where and who owned which land. Two books produced by the BRR ('Guidelines on Participative Land Mapping Book 1A' and 'Manual on Community Agreement on Land Boundaries, Ownership and Land Parcel Codification in Maps Book 1B') provide clear step by step instructions for both INGOs and communities (or individuals) on how to register land ownership (reproduced in UNHIC 2005a). Plots of land were to be marked in the ground using stakes. A map of the pre-tsunami plots

was to be hand-drawn, both the owners of the land, their neighbours and village leaders, were to sign the map indicating ownership and boundaries were agreed by consensus.

IOM (2005) reported that people in Aceh feared that someone else would occupy their land: '[t]he respondents were anxious about being uprooted from their land and there was acute longing to regain the life they had prior to the disaster' (IOM 2005, p.13). In photos of the post-tsunami environment there is graffiti on damaged houses and partially standing walls, which states the owner's claim to their land and housing, while also listing the names of those who have survived. In Figure 5.4 the graffiti reads 'Nurdiana owns this land' and that Tari and Popon are still alive.

Figure 5.6 Buildings damaged in the tsunami with graffiti showing ownership (Sudiatmo et al. 2009, p. 2).

Village mapping reassured land owners that their land would not be stolen and that they would not be forcibly moved to another location. The BRR's books clarify that land owners would be given legal recognition of their prior land title and that men and women have equal land rights. Book 1B estimated that the registration process would take until the end of 2007, given difficulties of identifying land boundaries due to changed landscape conditions, identifying the heirs of those who had passed away, and registration of legal guardians. If a claim for land ownership is uncontested, the BRR estimated that the land owner would receive a certificate within 75 days of the application.

5.5.2 Village and Environmental Planning

There is a significant difference between village mapping and village planning. Village mapping involved drawing the pre-tsunami village, which is working out the location and size of pre-tsunami land boundaries. In contrast, village planning involves creating a holistic, cohesive plan for the reconstruction of the village. Village planning involves taking into account the changed landscape, which areas will need rehabilitation, which areas are no longer habitable (if land has been submerged), and considering the timeline and responsibilities for those tasks.

Village planning requires consideration of complex needs and environmental risks. Moderate earthquakes (from 5-7 on the Richter scale) continue to strike the province of Aceh each year. There are also risks associated with regular flooding, landslides and deforestation. People in Aceh are adapting to changing climate conditions, particularly those involved in farming and fishing. These threats raise difficult questions about how people negotiate between extreme and day to day threats.

Researchers predict that the west coast of Aceh will continue to be affected by earthquakes and tsunamis within our lifetime; research from the University of Tokyo suggests that on average earthquakes have caused tsunami waves every 22 years between 1833 and 1941 on the fault line close to Sumatra, with small tsunamis of less than 5m occurring every 30 years (Wilkinson, 2005). Cummins (in Wilkinson, 2005) found that earthquakes in the range of the 2004 event reoccur approximately every 200 years. However, he predicts that another earthquake-tsunami of similar magnitude could happen within the next 20-50 years because the 2004 event did not release enough pressure. It is expected that this earthquake will affect the west coast of Sumatra, possibly to the south of Aceh in the region of Padang (Reid 2006). Wilkinson's (2005) research suggests that buildings built to Indonesian Building Code standards can survive extreme earthquakes such as that of December 2004.

The BRR took the position that housing and settlement planning were inseparable. Thus they argued that housing must be earthquake resistant, and that settlement planning must include evacuation routes to higher ground and must integrate basic infrastructure and services. Therefore, according to BRR's report, those responsible for housing reconstruction were also responsible for ensuring safe evacuation routes (Sudiatmo et al. 2009). BRR also required that both house design and settlement

planning needed to involve the local community to ensure 'sustainability of maintenance of the housing and settlement infrastructure' (Sudiatmo et al. 2009, p.3). BRR (cited in UNHIC 2005a, p.9) provides a list of village planning considerations including:

> land use planning, basic facilities and infrastructure (roads, drainage, clean water supply, sanitation, garbage disposal, electricity and communications), housing and neighbourhood facilities (public and social facilities), escape/rescue facilities (escape hills, escape paths, protecting forests/green belt, building regulations), improvement/rehabilitation of the environment: rice fields, fish ponds, garden plots, etc.

Village planning requires a trained facilitator to assist the community to plan their recovery.

The BRR recommended that '[p]lanning should be done by the community and facilitated by partners' (BBR cited in UNHIC 2005a, p.9). Figure 5.5 shows a flow chart for INGOs to follow prior to beginning reconstruction. The flow chart details steps such as obtaining building codes and regulations, seeking permission from the *camat* authorities, community mapping, seeking permission from the BRR. However, notably absent from the chart is environmental planning with the community or seeking the permission (or input) of the intended inhabitants into housing designs. The instructions for village mapping in Books 1A and 1B are much clearer and more systematically organised than the instructions for village planning in BRR's 'Book 2 Guidelines for Restructuring and Reconstruction'. Village planning requires information about who will be providing the different types of aid and the timeline for those to occur: types of information that are difficult for both aid organisations and the local communities to access.

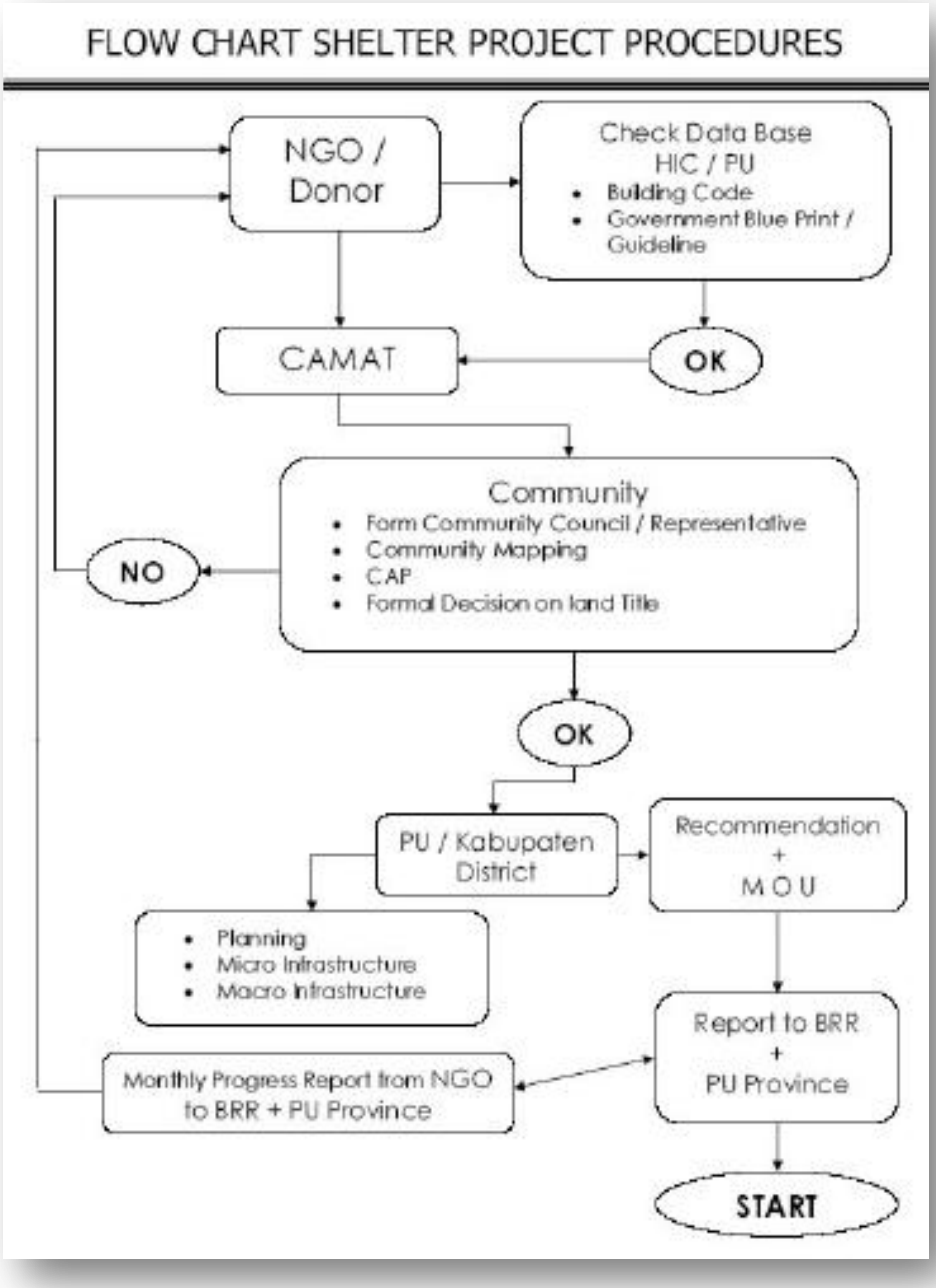

Figure 5.6 A flow chart showing the procedures for INGOs to undertake before beginning to rebuild housing (UNHIC 2005a, p. 1).

A key confusion for village planning was whether or not houses had to be set back from the sea to create a buffer zone or green belt. Oxfam's End of Program Report noted the confusion surrounding village planning 'there was a lack of clarity about government restrictions on building within buffer zones next to the sea' (Oxfam 2008, p.8). BRR guidelines state that it was possible for houses to be built in the pre-tsunami location with the 'condition that the environment is carefully rearranged and equipped with escape infrastructure and facilities to alleviate the effects of

earthquakes and tsunamis while adhering to existing building regulations' (BRR cited in UNHIC 2005a, p.61). The BRR recommend a multi-pronged approach to reducing the risk of future tsunamis through the use of wide open roads to higher ground as escape routes, escape hills and green belts. They stated that setbacks alone would not reduce tsunami risk. Hyndman (2008, p.108) writing about the consequences of 100m and 200m buffer zones in Sri Lanka, notes: 'The buffer zones effectively displaced yet again those who had lost their homes close to the sea in the tsunami, rearranging home life, commutes to school, travel to markets and access to livelihoods'. In Aceh there are examples of both housing programs which were set back from the sea and ones built next to the sea.

5.5.3 Semi-Permanent Housing

The first type of housing aid (in contrast to the shelter aid previously mentioned) to be built in Aceh were semi-permanent houses. The name 'semi-permanent' relates to the type of building materials used in their construction rather than their durability. In semi-permanent houses the foundations, floor and lower part of the wall are a brick-concrete hybrid. The upper part of the wall is built using a lightweight material such as timber or plywood (Figure 5.7).

'Semi-permanent' is a term employed by Acehnese people, the Acehnese Government, the BRR and INGOs. 'Semi-permanent' cannot be said to be a reflection on the quality of the workmanship, the quality of materials nor the intended length of use of the houses. This term relates only to the type of materials used and whether they are light-weight or masonry. Semi-permanent houses are common in Indonesia because they are cheaper to build than a full masonry house and can be improved or changed in the future when the household has funds. Importantly in this type of house it is easier and cheaper to change the location of a door way, create a new door way or provide more ventilation than in a fully brick-concrete wall. Such flexibility and adaptability of the house is important for the people to be able to make small changes slowly as and when funds are available to them.

Figure 5.7 Photo of semi-permanent houses built in Lhok Seudeu by Oxfam (Oxfam, 2006b, p.16).

Semi-permanent houses could be classified as temporary shelters, transitional shelters, temporary houses or long-term houses. However, with the introduction of the BRR's minimum standards for reconstruction semi-permanent houses were rendered inadequate because housing aid needed to be 'permanent' and this was translated as full masonry houses. In response to these instructions, some INGOs who had already constructed semi-permanent houses deconstructed them and rebuilt full masonry houses. It is unclear why they were deconstructed rather than being renovated.

5.5.4 'Permanent' Houses

In 'Guidelines on Housing Repair and Construction Book 3' the BRR outline the minimum standards for housing aid including a minimum floor size of 36m^2. The BRR estimated the cost per unit to be IDR 28.8million (approx AUD$2880) with an additional IDR 5million (approx AUD $500) for associated services such as community buildings, drainage and septic tanks (BRR cited in UNHIC 2005a). They anticipated that housing aid would take one of three forms: cash instalments, provision of materials or cash for work, or contracted services to a construction company. The existing building regulations, provided to INGOs through the United Nations Humanitarian Information Centre's Shelter Data Pack (2005a) include provisions for traditional elements to be included in the house design and recommend that a basic house consists of one multi-purpose room, one private room and one bathroom. There is a noticeable absence of information about kitchens in the building regulations, particularly in comparison to the details for hot water supply

and air conditioning, in a province where 60% of people had electricity and only 9% had access to piped water supplies prior to the tsunami (UNEP 2005).

In their documentation, the BRR actually refer to the basic house as a 'type 36 plus'. The 'type 36 plus' house was a 'core' house or a 'growing house' with the expectation that the inhabitants would expand it in the future (Sudiatmo et al. 2009, p.13):

> The minimum standard for newly built housing assistance was the Type-36 Plus house, meaning the structure was built using the expandable house concept, with the core house measuring 36m^2 and consisting of 2 bedrooms, 1 living room/dining room, a kitchen, a bathroom and a terrace. This minimum standard was planned based on accommodation for a family [with] 2 children.

Although the BRR's mandate was to provide coordination and joint implementation for the reconstruction in Aceh, the BRR decided to construct houses directly. The BRR estimates for the number of houses required in Aceh differ from those of other organisations by at least 20,000 (BRR Book Series). Due to this difference, the BRR decided to over supply rather than under supply housing needs (Sudiatmo et al. 2009, p.53):

> [I]f BRR were faced with building more or less housing than needed, BRR chose to not build less ... the risk of building more was thought to be smaller than of not building enough for the number of beneficiaries. If this were to happen, in a place that had only recently been devastated, such an occurrence held the seeds of social jealousy and conflict. This could even develop into a horizontal conflict, with the potential to damage things that had been rebuilt – physically and non physically.

The decision to over supply houses meant that the intended inhabitants were unknown and thus could not participate in the rebuilding process (Sudiatmo et al. 2009). One of the issues BRR faced was the eligibility of households for aid. Their initial policy was that only landowners whose houses had been destroyed by the earthquakes-tsunamis were eligible for assistance. This policy meant that those who had lost their houses or were displaced due to conflict were ineligible and that those who had lost their houses but were renting or squatting on land prior to the tsunami

were also ineligible for assistance (Sudiatmo et al. 2009). Due to the prevalence of traditional land ownership, many people in Aceh lived on land prior to the tsunami which was officially owned by an extended family member or someone from their community. Farmers in rural communities had informal long term agreements with land owners where rent was paid as a percentage on annual yield. These members of the community were initially ineligible for assistance following the disaster. Issues also arose for young families or recent arrivals who were not included in community maps and who were thus rendered ineligible for assistance. Furthermore, those who had been living on government owned land, either short or long term, were classified as displaced and ineligible for housing assistance.

Renters or squatters were eligible for cash payments (AUD$2,800 and $1,150 respectively) designed to allow them to rent or purchase materials to build a house (Oxfam 2006a). This policy quickly became unsustainable due to the inflation of material costs because of high demand and the amount of aid funding in circulation. In addition, there was concern about the poor quality of some of the materials. The BRR's suggestion in their housing report that the cash payment could have been used to 'make a deposit to buy a house' seems highly unlikely given the effect of the disasters on livelihoods and the inability of poor people in Indonesia to be eligible for a mortgage (Sudiatmo et al. 2009). Oxfam (2006) reported that the amount of funding specified by the BRR would not give people access to houses and that land available for resettlement lacked livelihood opportunities. Oxfam recommended providing houses for renters and squatters within their pre-tsunami communities.

Two years after the disaster, in 2007, BRR's policy for renters and squatters changed. These people were then offered housing aid in resettlement areas paid for by the BRR in relocation programs (Sudiatmo et al. 2009). It was necessary for the BRR to purchase the land for resettlement because it is illegal for foreigners, including INGOs, to purchase land in Indonesia (Sudiatmo et al. 2009).

The BRR's Housing report (Sudiatmo et al. 2009, p.13), *Housing: Roofing the pillars of hope,* emphasises the role of community participation and houses designed to meet individual needs:

> BRR offered leeway to accommodate community homeowner requests, aspirations, and desires. This was important for BRR since a house is a reflection of the future hope of the community. Therefore, each house was built with consciousness of the diversity inherent in the basic design. This was done to ensure that the individual homes would not look completely identical to each other, but could, as much as possible, reflect the needs and character of the inhabitants…to allow the people of Aceh to find their own true identity as a plural and cosmopolitan society that reflected their roots and their inherent cultural identity.

However, as stated earlier, the BRR was constructing houses when they did not know who the intended inhabitants were. BRR themselves built houses of 'Type-27', 9 metres smaller than their own minimum standards, on plots that were so small that the BRR houses were centimetres from neighbouring houses, providing no opportunity for the house to be 'grown'. The BRR were themselves responsible for a 'one-size-fits all' housing rollout across Banda Aceh. Instead of being a symbol of pride, they have become synonymous with corruption, poor quality construction and the loss of resources. Samuels (2013) describes the daily newspaper reports of protests and demonstrations in Banda Aceh over poor quality construction of undelivered programs of the BRR. Such houses suggest that the BRR did not effectively deliver on its mandate to coordinate and provide standards for reconstruction. The contrast between BRR standards and their practices is illustrated in Figures 5.8 and 5.9, the latter being an abandoned aid house with broken windows.

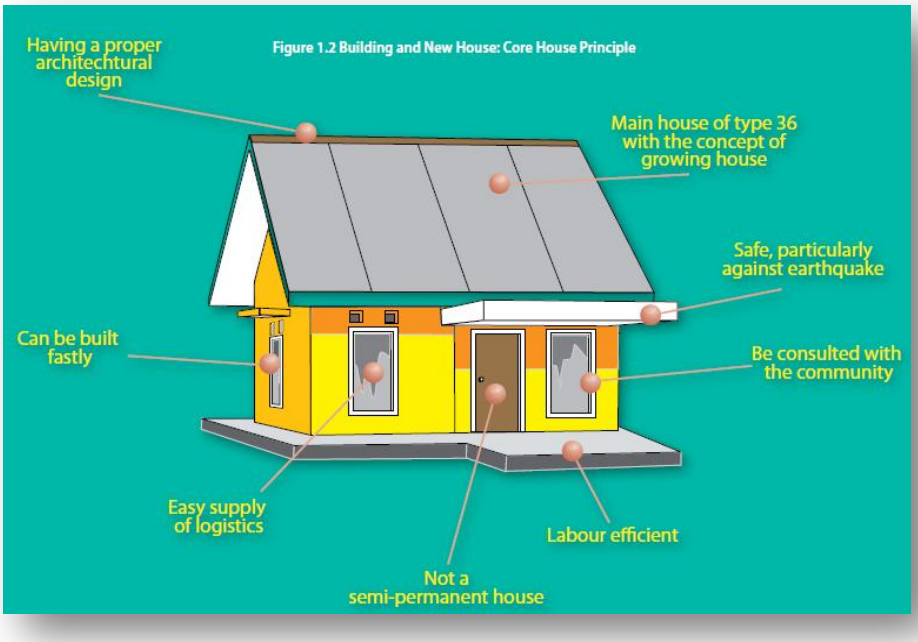

Figure 5.8 A model for BRR's minimum standards (Sudiatmo et al. 2009, p.13).

Figure 5.9 An abandoned house is shown directly after the BRR model house in their report (Sudiatmo et al. 2009, p.14).

BRR (in Sudiatmo et al. 2009) highlight a central problem with the 'Type-36' model that complicated the transition to post-tsunami housing: prior to the tsunami people did not live as nuclear (2 children) families. Kitzbichler (2011) notes that the design of aid houses meant that extended families who lived together pre-tsunami have now moved into individual houses. Houses prior to the tsunami were often inter-generational, with large extended families or children from other relatives residing in

the one house. The issue then became how to translate large extended family houses to small nuclear family houses. Should each nuclear family be eligible for their own house or should one house pre-tsunami equate with one house post-tsunami?

5.5.5 House Designs and Construction

In the previous section I wrote that the BRR directly implemented housing when they were unable to verify who the housing was for. The planning, design and construction of a house without the intended inhabitants' participation is known as donor-driven reconstruction. The BRR chose to replicate a one house design across all plots. Many INGOs also chose to employ a one house design for their programs. When INGOs were asked about their house programs by the United Nations in 2005, many indicated that they already had a house design, while some had more than one alternative between which communities would choose (UNHIC 2005a). Despite rhetoric from the BRR that people would participate in the house design, both the BRR and the majority of INGOs chose to implement one house design which consisted of a $36m^2$ house with one internal multipurpose room, two private bedrooms and a bathroom. However, Huda et al. (2007) note that households in urban areas (of Banda Aceh) had different housing expectations and requirements to households in rural areas. Huda et al. (2007) write that while wooden post-disaster houses were accepted by rural communities, those in urban areas requested shop houses that could combine business and household use. Furthermore, Huda et al. (2007) note that reconstruction in urban areas was problematic given the high proportion of renters who were initially ineligible for housing aid because they had not owned land pre-tsunami.

One key difference between INGO house designs in Aceh is between a house on stilts and a single-storey bungalow. Houses built by Uplink and Bank Mandiri could be classified as semi-permanent house because these are two storey houses on stilts. The stilts are masonry (brick-concrete) while the upper storey is wooden. These houses offer the households a covered space in which to have a business or to convert to an internal room when they have funds. Alternatively houses built by the Turkish Red Cross and the Saudi Arabian Government are 6m larger than $36m^2$ which allowed for either a kitchen alcove and/or a third bedroom inside the house.

However, INGOs did employ different strategies to construct houses in Aceh. For example, UN Habitat took the approach of training owner builders to construct their own houses. The communities attended workshops to learn about building standards and techniques, working parties of 10 households were created and funding was allocated to each working party for each construction stage (Huda et al. 2007). The building quality was monitored by the INGO. Training the owner builders was necessary because of the lack of existing skills in masonry construction.

An alternative approach was employed by the Asian NGO Uplink in the area of Ule Lhe in Banda Aceh. In this case Uplink employed a program of owner-managed reconstruction. Uplink built a prototype house which community members visited. Households could then apply to amend the plan. Households were able to build the houses on their own land and were able to cluster houses together to form one larger house for an extended family. The household could choose their own materials and either build themselves or hire labour. They could also add their own funds to choose alternative materials or features if they wished.

An ethnographic study of six villages in Aceh by Daly and Brassad (2011) found that INGOs and donors have different understandings of the provision and outcome of housing aid compared to those who inhabit the houses. Their findings suggest that in-depth studies of inhabitation are necessary to compliment and critique the INGOs own reports of their housing aid programs.

5.6 Case Study Site

The district (*Kabupaten*) of Aceh Besar (Greater Aceh) surrounds the capital of Banda Aceh in the north eastern section of Aceh. Aceh Besar was heavily affected by the tsunami. Preliminary estimates suggested that of the 302,405 people in the district of Aceh Besar, more than a quarter were missing or had died and one third were internally displaced (UNHIC 2005b). The total number (61,500) who died in the tsunami is higher than any other district (Thorburn 2007).

The case study site for this research is a village located within the subdistrict (*Kecamatan*) of Leupung in the district of Aceh Besar. The Leupung area stretches over 7600 km^2, and consists of fishing communities in small bays, flat lands which

contain fish ponds (*tambak*) and rice fields (*sawah*) and are boarded by steep forested hills. Unfortunately the distance between the shore line and hills in some areas of Leupung meant that the death toll in some villages was as high as 90% (Wilkinson 2005).

Twenty days after the tsunami occurred a medical team on board fishing boats from Malaysia found people in Leupung who had been without food or medical assistance apart from one air drop since the tsunami occurred: 'We saw children on their knees. As we approached them, they did not even have the energy to stand up and walk towards us' (Singh 2005, p.1). Following the tsunami the main road connecting Leupung to the capital of Banda Aceh was severely damaged with some sections submerged or lost completely (Boen n.d.). Figure 5.10 shows some of the damage to this road and a clear line in the hills where the tsunami waves have stripped trees and vegetation. In August 2005, AIPRD (2005) reported that the road to Leupung remained inaccessible.

Figure 5.10 The main road through Lhok Nga showing how the tsunami waves stripped trees and vegetation from the hills (Boen n.d, p.20).

In July 2005, five INGOs were involved or committed to providing shelter in the Leupung region: Mercy Corp, Oxfam, World Vision International, Handicap International and the German Federal Agency for Technical Relief (UNHIC 2005a).

When data were collected in August 2005, more than one third of people were displaced by the disaster, and a further third were staying in tents, while only 20 people were staying in barracks and 167 were housed with relatives (UNHIC 2005b).

There are six villages (*gampong*) in Leupung, each village consisting of 3-4 neighbourhoods (*dusun*) of houses. This research is concerned with one village in Leupung, that of Layeun. The case study community has a land area of 15.5 km^2. The landscape in Layeun, in particular the proximity of the sea to the hills, meant that relatively more people survived the tsunami than in other villages in Leupung. During my field research leaders in Layeun said 240 people had died or were missing on the day of the tsunami. This figure indicates that three quarters of the population survived the tsunami.

The following tables (Table 5.1 and 5.2) provide an overview of the population in the case study site from pre-tsunami through to 2009. However, it is difficult to verify the number of people who lived in the village pre-tsunami and the number who passed away in the tsunami. Data provided by the Leupung sub-district office in 2009 (Effendi 2009) gave the total pre-tsunami population as 950 which correlates with the figure provided by the village head in 2005 (Anon. 2013). In 2010 data from the sub-district office suggest that there were 891 people in the village pre-tsunami, 59 less than earlier figures (Yuliar 2010) (Table 5.1).

Table 5.2 presents population data collected by Henderson and Lee (2011) in 2005, 2007 and 2009. This data was collected from interviews with the village leader at the time. The difference in the figures hints at the difficulties faced by both community leaders, local district officials and INGOs in collecting information about residents including where people were seeking shelter, who had returned to the village, and who was intending to return. For example, data collected in 2005 suggests that 396 people died or were missing due to the tsunami because zero people were listed as staying in emergency camps, however in 2010 the village leader reported that 72 people had been lost in the tsunami (Table 5.1 and Table 5.2).

One potential cause of the variation in Anon. (2013) data was the change in village leadership in Layeun between 2005 and 2009. Anon. (2013) research suggests that the pre-tsunami village leader was elected in 2002/2003, in addition to being village leader he was also head of *Panglima Laot* (the organisation for fishers). Although he

survived the tsunami he resigned as village leader in October 2005 to take a leadership role for the subdistrict (*ketua mukim Leupung*). The replacement leader was chosen by consensus at a village meeting and this leader held the role until August 2007 when elections were held. However, elections were held again in February 2008 (Anon. 2013). Data collected by Anon. (2013) suggests it was common to choose the leader at a village meeting if the village leader resigned, but that women do not attend village meetings.

Table 5.1. Pre and Post-tsunami Population Statistics from the Subdistrict Office (Yuliar 2010).

	Total Population	Population by Gender		*Kartu Keluarga* (number of family registration cards)
		Male	Female	
Pre-tsunami	891	487	404	255
Post-tsunami	819	457	362	225

Table 5.2 Population Statistics Given by the Village Heads in 2005, 2007 and 2009 (Anon. 2013).

	Total village population	Number of households	Total Males	Males under 15	Total Females	Females under 15	Children under 6
Pre-Tsunami[20]	950	405	300	227	296	127	not given
2005	554[21]	345	120	152	140	142	not given
2007	760	305[22]	361	not given	298	not given	101
2009	600	245[23]	270	not given	300	not given	30

[20] Data collected in 2005.
[21] The total number of people in camps outside the village was listed as 0.
[22] Includes 15 households that intend to return but were outside the village in 2007. Six new households who purchased land in the village. Four households left the village because their land was submerged.
[23] Eight households moved to the village in 2008-2009, of those six rent and two bought land. Two households have left since 2007.

Table 5.3. Livelihood Statistics from the Subdistrict Office (Yuliar 2010)

	Farmers	Fishers	Soldiers	Private business
Pre-tsunami	147	373	8	138
Post-tsunami	162	318	3	167

Table 5.4 Livelihood Statistics Given by the Village Heads in 2005, 2007 and 2009 (Anon. 2013).

Employment (as percentage)	Catching fish/ fish processing	Aquaculture	Agriculture	Trade	Unemployed	Other
Pre-Tsunami[24]	35	10	20	5	20	10
2005	0	0	0	20	70	10
2007	60	5	5	5	19	8
2009	30	not given	30	37	40	8

[24] Data collected in 2005.

Table 5.5. Physical Infrastructure Statistics (Yuliar 2010).

Buildings	Houses	Schools		Religious buildings		Stores[25]	Police/ Army Posts
		Kindergarten	Primary	*Mosque*	*Meunasah*[26]		
Pre-tsunami	247	1	1	1	1	42	1
2010	213	1	1[27]	1	2	30	1

[25] The translation of *Kedai* can be store, stall or shop. It is likely that both brick/concrete structures and wooden shelter stalls were counted as *Kedai*.

[26] *Meunasah* tend to be wooden platform buildings, raised on poles with open, half enclosed or fully enclosed walls. There is a *Meunasah* built onto one of the reconstructed houses which is used to teach children the Koran. It is also used as a gathering and meeting place. There are two community buildings built from concrete for community meetings, and a traditional style Acehnese houses which is also used as a play group centre for children. There are other wooden buildings used as *Meunasah* where young unmarried men gather to relax, watch soccer and sleep.

[27] Since these data were collected, a second school has been constructed within the village and the previous school buildings are to be used for another purpose.

Following the tsunami, in 2005, the village leader reported that in general residents were unable to find work. He estimated that 70% were unemployed and that those who were employed were undertaking trade or construction work rather than their pre-tsunami fishing or farming livelihoods. By 2007 80% of residents worked in the village and 20% commuted, in 2009 this figure was estimated to be 90% (or 243 males) worked in the village and 10% outside. In 2009 the average daily wage for a construction worker was IDR 50,000, this was equal to the daily wage for a fisher on a small boat (approx AUD$5.00 at the time of field research) (Anon. 2013) .

The highest level of education of the village leaders between 2005 and 2009 was either primary school or junior high school. In 2005 the village leader reported that both the primary and junior high school in the village prior to the tsunami had been destroyed (these were government rather than Islamic schools) (Anon. 2013). Despite this physical destruction, he stated that students in the village had begun studying again and he rated the education services provided by the local and sub-district Governments and aid organisations as good, however it was unclear whether a school would be rebuilt, who would be responsible for the rebuilding or when it would happen. In 2009 a primary school was donated to the village by a Turkish organisation and was fully operational (Anon. 2013). In 2009 the village leader estimated that 40% of residents had graduated from high school or above (Anon. 2013).

Anon.'s (2013) research shows that information collected in 2005, 2007 and 2009 differs according to what community and religious buildings were in the village pre-tsunami and who donated which buildings post-tsunami. Religious buildings were donated in 2007 and 2009, a Mosque was provided by SWADAYA[28] and/or the Indonesian Government/BRR, and Mercy Corps (several) provided a *Meunasah.* A fishermen's hall was provided by Education International (Jerome Fernandez), and a village hall and/or health centre by USAID (United States Agency for International Development). However, in 2005 the village leader reported that USAID had 'adopted' the village with an overall plan for housing and livelihood aid, however in 2007 the village leader reported that no NGO had taken overall responsibility for the

[28] It is unclear whether this is the name of a local NGO or the community provided this Mosque themselves as *swadaya* actually means self supporting.

village. In 2007 the local NGO *Yayasan Inovasi Pembangunan Daerah* had assisted the community to map the village to confirm both land ownership of house plots and farming/aquaculture land. A cash for work program to replant 10,000 mangroves was underway in 2007 run by Plan International, BRR donated assistance to rehabilitate aquaculture channels, Mercy Corp (several) had assisted to rebuild the sea wall (Anon. 2013). The village leader (in 2007) also reported that aid programs both by the BRR and other NGOs had been promised but were yet to arrive. In 2007, 85 temporary wooden shelters had been donated by Muslim Aid Indonesia, 50 houses had been completed by Oxfam and 163 were under construction by World Vision.

All built structures, including houses, schools, community buildings, the road and Mosque were lost in the tsunami. All fishing boats and fishing equipment were destroyed, fish ponds were inundated with water and farms were lost. The first offer of fishing aid came from the Indonesian Government in June 2005, when 10 *thep-thep* (motor boats) were offered, however these are not listed in later figures so it is unclear whether this aid eventuated (Anon. 2013). At the time (2005) the village leader (who was also the head of the fishing community) stated that there had been 10 *palung* (large boats with a crew of 8 people), 5 *thep-thep* and 9 other boats in the village. In 2007 the village had received 29 boats, the majority (20) were donated by Community Habitat Finance International, one was from the International Red Cross, however eight from World Vision were unable to be used. In 2007 a further 3 boats had been promised by Singapore. The number of boats required in the village was estimated to be substantially higher in 2009 because that calculation included small boats such as kayaks which were not previously counted. In 2009 the number of pre-tsunami boats was said to be 122, they had received 59. Of the 59 received, 15 were *sampan* (kayaks or other small boats without motors), 15 were *sampan* with motor, 10 were *thep-thep*, and 18 were *palung.* In 2009 one boat had been donated by Oxfam (in 2006), 22 by the International Red Cross and 15 by Singapore (Anon. 2013). The differences in these figures hint at the difficulties for INGOs to calculate what had been lost in the tsunami, which agencies had already provided aid to a community and what further aid was required.

Dixon and McGregor (2011) also provide insight into the difficulties faced by fishing communities in Aceh in accessing fishing aid; they argue that rather than those in a fishing village being able to choose what type of aid they received, such decisions

were often made at the district level because staff at the district office could speak English and more easily negotiate with INGOs. Dixon and McGregor (2011) argue that such communication issues meant that instead of describing what they had prior to the tsunami, *Panglima Laot* (the fishers organisations) requested boats or equipment that they thought aid organisations could provide.

In 2009, the village leader estimated that 366 people were fishing in the village, however the number of those involved or dependant on the fishing industry is much higher than this (Anon. 2013). For example, private businesses include small stores, cafes and stalls selling dried salted fish. A stall selling salted fish may be listed as private business but is just as dependant on the fishing industry as fishers (Table 5.3). Other businesses such as cafes, laundries and the barbers are also dependant on the fishers having funds. The fishing industry is seasonal and dependent on the winds: fishers generally only fish for six months of the year. Some are able to save enough money during the fishing season to support themselves during the non-fishing season, while others take on labouring or farming activities.

The figures presented in Table 5.3 suggest that 318 people are fishers, down from pre-tsunami figure of 373. However in 2005 the village leader reported that of the 24 boat captains pre-tsunami only 12 survived (Anon. 2013). The figures presented in Table 5.3 also indicate that the number of people farming has increased since the tsunami. However, this table does not list the types of farming in which they are involved. Those who were fruit farmers prior to the tsunami may now have an alternative farm or another occupation, as for those who lost fruit trees in the tsunami, there has not been enough time for new trees to grow. Furthermore, informal incomes, such as those that are earned by people who collect rattan for weaving baskets or mats, may not have been listed in the table. Women who supplement the household income by selling eggs, cooked food or sewing may also not have been included. It would be usual for people in this village to have more than one source to offset the loss of income during the non-fishing season. These figures in Tables 5.3 and 5.4 represent working males, not necessarily females, and are not necessarily indicative of the number or livelihoods of those that passed away in the tsunami. Variation in data for this village is indicative of the significant uncertainties

and challenges for INGOs who were attempting to plan for reconstruction and resettlement.

The village of Layeun has four *dusun*. The village has an elected village leader (*Keuchik*) and each *dusun* has an elected leader (*Kepala Dusun*). As da Silva and Batchelor (2010) note, the village and village leader are the core organising structure and point of leadership for communities in Aceh because ongoing conflict had weakened the authority of national government structures such as the district and sub-district offices.

Residents in Layeun were part of a cash-for-work program , run by Mercy Corp to clean up debris in the village. Between Feb 2005 and May 2006, Mercy Corp also provided 20 temporary shelters and had plans to rebuild water supply and sanitation in Layeun (UNHIC 2005a). The residents also received donations including fishing boats, equipment, and fruit trees.

Voets (2006, n.p.) reported on the progress of a Quick Impact Program (QIP) in Lhok Seudeu (one dusun of Layeun): 'QIPs are programmes designed to assist households, groups or an entire community to recover livelihoods and re-establish local economies'. In Lhok Seudeu a *palung*, a fishing boat, was built with the QIP (Figure 5.10) (Voets 2006). A *palung* is run by a group of seven to eight fishers who fish six nights a week (not on Fridays). According to the conditions of the QIP, half (actually 40% once the village treasurer has 10%) of the yield of the fishing boat went to a community fund which in 3 months raised IDR 35 million (approx AUD$3500). Voets (2006) writes that the community chose to use the funds to pay for the land where housing aid was planned (owned by community members).

Figure 5.10 The blue boat was funded by a QIP (Voets 2006).

Two INGOs had a significant role in the reconstruction of Layeun, World Vision and Oxfam. One factor in the selection of the case study location was to study the inhabitation of houses built by INGOs with experience in disaster situations. As outlined in Chapter 4, other factors such as geographic location and participant willingness also influenced my decision. Both Oxfam and World Vision are actively involved in post-disaster forums, research and reporting.

The house designs of Oxfam and World Vision were very similar, both consisting of a main internal multi-purpose room, two bedrooms and one bathroom. In total, 213 aid houses were built in Layeun: 163 by World Vision and 50 by Oxfam. Both organisations created a new settlement plan and relocated houses back from the sea. However, there was significant difference between the two organisations both in the distance the houses were relocated and in the settlement plans (see Chapter 6). The houses were rebuilt on farming land and both INGOs required the intended recipients of the houses to pay the land owner before the INGO would provide keys to the house. A 'community price' of IDR 3 million (approx AUD$300) was set for the plots of land. None of the houses are uninhabited because the intended owner could not pay for the land.

Oxfam built 50 houses in Layeun in the *dusun* of Lhok Seudeu. World Vision built 163 houses in Layeun for three *dusun*. These *dusun* were renamed, *dusun* one, two and three (Layeun 1-3). It was not unusual for more than one INGO to build housing in a village. For example in the neighbouring village of Pulut four INGOs built housing. However, in the case study the two INGO housing projects were built as two distinct groups. This settlement pattern has had important implications for the people in the village which I discuss in Chapter 9.

5.6.1 World Vision

World Vision has been praised for their work in Aceh both by those who received World Vision houses and by the then head of the BRR. For instance:

> In Indonesia, established international NGOs were perceived to be far superior than the government or local NGOs (on average) both in the aid provided and the process with which it was administered. For example, 85% of the affected families surveyed ranked international NGOs highest in terms of quality, maintenance of dignity, and fairness in distribution of aid. Among the 500 recipients ... World Vision was the aid organisation most mentioned for outstanding service to the beneficiary (Fritz Institute 2005, p.7).

World Vision's work in Lamjabat (outside the case study site) received praise because they had involved the community in planning the village reconstruction. The head of the BRR at the time, Kuntoro Mangkusubroto, suggested that World Vision's program in Lamjabat was the first such reconstruction program to involve village planning with the community. The Lamjabat program involved 139 houses as well as a community disaster mitigation plan involving escape routes and high ground. World Vision (2005, n.p) reported the head of BRR and the village leader's statements about their project:

> "Beforehand, there were NGOs who came only to build houses, but they could not provide the sanitation, water, and other facilities. At the time I thought this plan was too good to be true, because this is the first time where everything is planned: the width of the road, pavement, fishpond, the mosque, women's centre and schools. Could this be real? But today, Alhamdulillah (thank God) this is something real," Kuntoro said.

> Head of Lamjabat village, Mr Azbar expressed the community's excitement over the development. "This development is done fully by the community facilitated by World Vision. Unlike other developments, World Vision is the only one who involved the community since the beginning," Azbar said.

In the case study village of Layeun, World Vision provided 163 houses through an implementation program called 'aided self help' which was to involve community training. World Vision's initial plan was comprehensive and involved rebuilding or renovating a Mosque, clinic, school, water and sanitation and roads (UNHIC 2005a).

In late May 2005, World Vision announced plans to build houses in Layeun, and although a master plan for the reconstruction was ready, land ownership issues were delaying construction. In the same month World Vision applied to build a primary school (among other schools proposed) in Layeun, expecting construction to take 12 months from June 2005 until June 2006, and to donate an off shore fishing platform. The initial expected completion date for housing reconstruction was August 2006, however due to complications the program was ongoing in 2007 (Figure 5.13). In January 2007, Serambi, the local Acehnese newspaper, reported that people in Layeun (Nurdin 2007, p.3):

> felt like balls [going back and forth] between the contractor and NGO who had not finished the work building houses in packet Layeun 1. From 63 units in packet Layeun 1, just 25 units are close to being finished but cannot yet be occupied even though the work has finished.

The article quotes the village leader as explaining that both the contractor and NGO denied that the obstacle lay with them, and he asked for both sides to sit down with the community to identify the obstacle. However, the leader goes on to explain that there is an ongoing dispute with the BRR, because the aid houses have been relocated away from the sea. He argues that the community members whose land has been used for rebuilding should be compensated by the BRR because in other locations BRR has bought land for houses. Although the village leader identified the issue with the BRR as separate to the issue with the contractor and NGO, it is possible that these are related. Furthermore, he states that 283 households in Layeun require housing aid, 70 more than would be housed in the 213 houses provided by

World Vision (163) and Oxfam (50). He suggests that, if aid is available, those houses could be built in the original pre-tsunami location. This is interesting because it suggests that the village leader does not agree with the decision to relocate houses away from the sea, or does not view relocation as a priority. However as the village leader in Layuen changed three times during reconstruction it is highly likely that this contributed to the confusion and changed priorities (see Chapter 9).

Figure 5.13 Layeun 1 under construction in January 2007 (Nurdin 2007, p.3).

5.6.2 Oxfam

Oxfam took a central role in providing advice and information to the Indonesian Government and the BRR. They have been praised to their honest approach in publicly addressing corruption within their programs. Oxfam's reports (2008) suggest that their programs were process rather than outcome orientated. For example, advocacy and fostering civil society were central priorities due not only to the impact of the disaster, but also the implications of the ongoing conflict. This approach meant that Oxfam argued for the rights of squatters and renters, and was instrumental in pushing for equal land rights for men and women (Oxfam 2008).

Oxfam's reconstruction work began in February 2005 when they built a model house for communities to visit and see their work. Their approach was to involve communities in all stages of reconstruction from planning and design through to

construction (Oxfam 2008). However, their programs varied significantly depending on the staff on the ground. During 2005, 700 semi-permanent houses were built in Aceh by owner-builders through Oxfam's programs. Fifty of those houses were built in the *dusun* of Lhok Seudeu, in the case study village of Layeun.

> Fifty families in the village of Lhok Seudeu, one of the regions worst affected by the tsunami, lost their land and homes. Only a few months after the disaster these families started negotiating over new land with landowners in the village. By mid-May, 38 of the households had agreed to buy 5,000 square metres of land with a two-year loan. With the villagers, Oxfam surveyed and mapped the land, divided it into plots, and started planning the village. The success of this project encouraged the other 12 families to move into the new site and reintegrate into their community (Oxfam 2006a, p.8).

Oxfam reported that communities in Aceh were positive about their involvement in the housing programs, and that they appreciate that water and sanitation were included in the programs which was unusual (Oxfam 2008). However two factors changed Oxfam's approach to rebuilding. First, the change in BRR policy set minimum standards for permanent (masonry) houses at the start of 2006 (Oxfam 2008). Second, the low skill level of owner-builders led Oxfam to decide to hire building contractors to replace the semi-permanent houses with permanent houses (Oxfam 2008).

5.7 Conclusion

Participation was used as a framing concept by both the BRR and INGOs involved in housing reconstruction in Aceh. The process of land mapping, by necessity, actively involved community members. However, often communities were not involved in land-use planning or housing design. It was common for INGOs to present communities with completed village plans or house designs for them to approve. I investigate the impacts of this process in the case study in Chapters 7 and 8.

The work of both aid organisations and communities was hampered by the confusion surrounding who would be responsible for which programs and where people were sheltering after the disaster. INGOs faced significant barriers including the ongoing

conflict in Aceh, challenges in sourcing materials and labour, and the difficulty of hiring and retaining staff. Yet despite these challenges they did complete more than 120,000 permanent houses in Aceh, 213 of which were in Layeun.

What is missing from the literature discussed in this chapter is an understanding of the role of housing reconstruction in facilitating or hampering people's recovery efforts. In this chapter I have set the scene for the following chapters which explore the inhabitation of post-disaster houses in the village of Layeun.

6. Home in the Post-Tsunami Landscape

6.1 Introduction

In this, the first of the four data analysis chapters, I explore the interviewee's post-tsunami stories. What emerged in their interviews is information about the choices, decisions and actions they undertook both immediately after the tsunami and during the reconstruction period. These narratives highlight their capabilities and challenge assumptions that these people were passive victims whose immediate future lay in the hands of external agencies in charge of the post-disaster response.

I show that participants maintained a strong ongoing attachment to their home and place, and that these are intrinsically linked to their sense of identity. Their sense of self is bound to their ability to conduct everyday life in their home place. In particular, the key finding of this chapter is that the participants' strong attachments to their home places, and their resulting drive to re-establish their lives and livelihoods in this place, was a source of considerable resourcefulness and resilience.

Although the interview questions were not designed chronologically, I have structured the data analysis chapters in the unfolding timeframe of participants' post-tsunami experience to avoid repetition. In this chapter, then, I discuss the period of time between the tsunami occurring and housing being re-built. Interviewee information about pre-tsunami life in the village is used to compare and contrast the post-tsunami experiences throughout this and the three following chapters.

6.2 The Tsunami and Immediate Aftermath

When the Indian Ocean tsunami struck, the case study community was living on the edge of the sea. Between one quarter to one fifth of the 900 residents were lost in the tsunami. This figure is approximately equivalent to one person per household. However, the tsunami affected people differently; at least two children lost their immediate family, while other residents lost one or two family members. The number of people lost is thus not necessarily a good indication of the extent of the devastation for the inhabitants. Furthermore, many of the residents in the village were related to people in neighbouring villages where the death toll was much

higher. One of the participants who held a leadership role in the village explained the number who lost their lives in the following way:

> For our community, we did not have many deaths compared to other places because in this area we are close to hills, right, as well as that we can see the sea, so that anticipating is easier [here], straight away running and save ourselves … [there were] less than 200 deaths [here].

In addition to the loss of people, animals both wild and those in domestic farms died or disappeared. Almost all of their built environment was destroyed; houses, cafes, community meeting places[29], businesses, the Mosque as well as internal roads and the main road connecting the village to neighbouring villages. Coconut and fruit trees as well as vegetable crops, both in the village and part way up the surrounding hills, were lost. The fish ponds were inundated with salt water. Fishing boats, motorbikes and bicycles disappeared. Phone and electricity lines were destroyed.

Not only were large items destroyed, but so were the materials for everyday life, such as stoves, cooking utensils, bedding, clothes, medical supplies and food. One participant, Rohani[30], said that they were fortunate that a truck carrying instant noodles had crashed in the village during the tsunami. Those instant noodles were their main source of food for the first week after the tsunami. Another participant, Zaimuddin, recalls painting 'SOS' in yellow paint, explaining that someone had told him it meant that aid was needed. At the time of interview Zaimuddin had held a leadership role in the community since prior to the tsunami, he said a week after the tsunami occurred they had not received any aid and they were ordered (by the Indonesian army) to evacuate. He was later told that the day after they evacuated an American ship stopped at the village because of the SOS sign.

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[29] Including *balai* (wooden platforms) and *Musholla* (community houses for prayer and for young men to sleep at night). See Chapter 8 for a detailed description of the function of these community spaces.

[30] All names in Chapters 6-9 are pseudonyms (with the exception of 'Paul' in Chapter 9). With my research assistants I chose names that reflected the context of the research in rural Aceh. Pseudonyms may be similar to the names of people in the village that I did not interview.

One interviewee's story of the tsunami stands out for me. Aged 12 or13 when the tsunami occurred, Ali explained that: 'After the earthquake there is no chance to see the wave… straight away [I was] running…' I ask Ali how he knew to run: '[I] wanted to run here [indicating on the map he has drawn that he wanted to run towards the shore], want to run to my Grandma's house, [but] the wave was already here, already at the village road here, [I] keep running…because some people had already seen [the wave] so keep running'. Ali explained that his parents later told him that this was a tsunami as they ran to the mountains. I then asked Ali, 'was your Grandma at her house?' He replied '*ngak ada lagi'* meaning not there anymore. At the time I thought Ali meant that his Grandma was already in the mountains. In hindsight I realise he meant she was already taken by the tsunami wave.

Another participant, Asiah, described the tsunami wave: '[it was] more than three times the height of a coconut tree'. Asiah explained that she knew a tsunami was coming:

> I knew because people said [that] the sea was receding (low tide). This happened before at the time of Nabi Nuh[31]. People said run to the mountain therefore we just run, two of us were hit by the tsunami, my mum and my dad's older brother.

Some participants did mention that an inundation of ocean water of two metres high had occurred within their lifetime, but that it was a slow inundation, similar to a flood. Other participants said they ran because other members of the community were telling them to, rather than knowing about tsunamis themselves.

It is possible that their ancestors were not living in this location when the last tsunami occurred. Although many participants described themselves as *orang asli,* meaning original people (or people originating from this place), to be thought of as *orang asli* a person's family only needs to have been in the village since their great-great grandparents (or for five generations). For example, the village leader in Lhok Seudeu is the fifth generation of his family to live there. When the earthquake happened he said he went inside to secure his fish tank because of the strong quake.

[31] This is a reference to the story of Noah and the great flood, this was the only participant who referenced Noah.

He said he never would have done this if he thought a tsunami was coming. When he heard people shouting 'water, water' he started running:

> Suddenly the water is coming, we are shocked… our minds are empty, we forget everything, [even] our ABCs are forgotten, …I was in one group running to the top… when I am up, when all of us are up, I remember [my wife]… I just realise. Straight away I go back down, when I am going down I meet this person going up I ask "where is my wife? My wife?" Just when I get down to the bottom I meet her.

His wife explained the shock she felt when she stopped running to look back towards her house: 'I see my house has already, whoosh … taken by the water like this …When I saw that "Ya Allah…!" my house has gone'. Her husband continued: 'from me to that [wave] that took our house was 50 metres'. When asked whether he had any prior knowledge about tsunamis he replied: '*nggak pernah, apa, terlintas, nggak pernah tergambar di pikiran'* meaning '[it] had never, what is the word, occurred to me, it had never pictured in my thoughts'.

Following the tsunami, Asiah spent two days in the mountains surrounding the village before returning to the village. She explained that staying in the mountains offered safety but also drinking water from coconuts and a well that the villagers repaired and cleaned. With the tsunami, almost all communication between the village and other areas was lost. In one group interview, participants talked about receiving a 'drop box' from a helicopter while they were in the mountains. It was remembered because it contained 'beautiful Indian saris', but the participants were unsure who it had come from. At this time participants usual means of travel via the main coastal road to Banda Aceh was destroyed. Their only means of finding information was through people who walked overland (a two day walk through the mountains) to reach the village and the radio at a nearby military post.

The military radio post offered an important means of communication and coordination. However, due to the ongoing conflict in Aceh it was not possible for all people to move freely or to communicate via this facility. This was the case for one participant who was a combatant of the Free Aceh Movement (*GAM*). He talked about being in the mountains when the tsunami occurred and not knowing what the

situation was in his village. He was not able to return to the village because of the on-going conflict. He waited in a tree above the village, watching to see if he could find what had happened to his family:

> After the tsunami, actually there was still conflict here…[but] the GAM did not come home. In other places when the tsunami water went down the GAM people went home to their village, they go home and the army is there, that makes conflict. [But] here when the water went down we didn't come home here, we just wait, we just wait for news like where are our households, especially not going into the village, just sit on the edge of the mountain there. Rather than making [the situation] more dangerous with the army.

Either the day of the tsunami or the following day, this participant and his father carried a child that had been swept about in the tsunami waves to seek medical help in Banda Aceh. At the time he said he had to hide for fear of being recognised as a member of the Free Aceh Movement by an Indonesian soldier. For those people who were known combatants of the Free Aceh Movement, evacuating to the emergency camps was difficult because of the danger that they would be recognised by Indonesian military personnel; one participant said that when he evacuated to the emergency tent he was unable to go outside for fear of being recognised[32].

Around 6 days after the tsunami, the remaining villagers evacuated to Mata Ie (Figure 6.1). The decision to evacuate was both due to the absence of food and medical supplies left after the tsunami and/or because they were ordered to do so by the Indonesian army. They were assisted by friends who returned to the village from Banda Aceh and members of the Indonesian military who had been stationed at the military post near to the village prior to the tsunami. They left the village at 6am to walk to Mata Ie, arriving at *Mahgrib* (the time for evening prayer)[33]. Like many

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[32] By chance this participant was able to join a German NGO program which offered sewing training in Java, this program allowed the participant to leave Aceh and return after the MoU between the Acehnese Freedom Fighters and the Indonesian Government had been signed in August 2005.

[33] It is not unusual for participants' recollections to vary as to whether they left on the 6th or 7th day after the tsunami occurred.

other activities this journey is marked according to Muslim prayer times. Mata Ie is a mountainous area on the edge of the capital Banda Aceh, where an emergency camp had been set up by INGOs with medical supplies and food. They walked together for two days, camping overnight in the mountains.

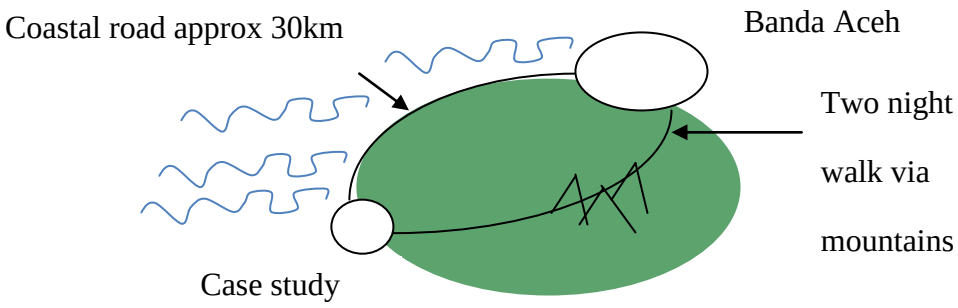

Figure 6.1 Diagram of case study site in relation to emergency camp.

One participant, Syukriati, explained how she heard about the emergency camp: 'on the sixth day we went to Mata Ie, there were already many sick children, and so a friend returning from there, said "go to Mata Ie... lots of help there".' In a group interview the women recalled the immediate aftermath of the tsunami, they described having no food after the tsunami occurred:

> Nothing [no food], all empty, there was nothing, later if someone was passing we were in the path at the top there [of the hill around the village]. If someone pass they give [us] food, whoever it was brings food. Seven days and seven nights there was no food.

In the same interview the women described travelling through Lhoong on their way to Mata Ie, many of those in the case study village were related to or had grown up with people in Lhoong. The devastation in Lhoong was more extreme than in the case study village. For example, one participant compared the experiences of these two places:

> Here because we are close to the mountains many [people] were saved here. In Lhoong the mountains are far…Here we can see the water which means

> we have time to run, for people in Lhoong they cannot see because the people there have many many trees, because it is dark[34] they cannot see the sea.

The situation described by the participants of the initial period following the tsunami is reflected in a news article published online on the 16th of January 2005:

> an international humanitarian relief effort for the earthquake and tsunami victims in Aceh, Indonesia, is now busy assisting survivors of a group of villagers that have been without food and medical assistance from the outside world for some 20 days… [the] team found the group of villagers in one of its search and rescue missions on Friday, Jan 14. The group of villages, close to the town of Lhok Seudeu, is south of Banda Aceh and faces the Indian Ocean… "We saw children on their knees. As we approached them, they did not even have the energy to stand up and walk towards us. It's a pitiful sight," says chef de mission Mr Malkith Singh (who is currently at the village)… Initial reports from [the] ground say that the villages have been badly devastated by the tsunami. "The first kilometre from the sea shore was simply wiped out," says Malkith Singh.
>
> On the whole, the villagers are facing malnutrition due to lack of proper food as they have been cut off from the rest of the world since the tsunami. Initial reports suggest that the village only had one airdrop before being spotted by the […] team last Friday (Singh, 2005).

None of the participants refered this ship in their interviews so it is possible that people in the article were from a neighbouring village.

6.3 Emergency Camps and Barracks

Emergency camps (Figure 6.2) were set up around Banda Aceh by non-government organisations (NGOs) offering emergency food, water and medical treatment. Sixteen of the participants described evacuating to emergency camps around 6 days after the tsunami occurred, yet only a couple of interviewees talked about their time

[34] By dark she is referring to the trees blocking the line of sight to the sea.

in the emergency camps. Some of the participants stayed in Banda Aceh for between 1-3 months.

Figure 6.2 Examples of an emergency camp and barracks in Banda Aceh (Rand and Hirano, 2011).

One woman recalls her experience in the emergency camp:

> When we evacuated, if I'm not mistaken, we were in the tents 3 months after that we newly move to barracks [at] Lambaro [in Banda Aceh]. If we [were] thinking in the tents, our thoughts would never end, [we were] very sad. Besides that [it was] hot and muddy, we slept below the plastic, there was no mat, no pillow. For food sometimes we just eat Indo Mie. It is true that we didn't have any money at that time… At first there were no [cooking tools]. When we want to move to the barracks then [we were] each given a stove, given a pot. At first there was nothing.

On leaving the emergency tents some participants chose to move to medium-term shelter in the form of barracks while others returned to the village. Barracks were built in Aceh by the Indonesian Government. These shelters were called *barak* by participants, literally meaning barracks and indicating their similarity to military barracks.

The needs of their children were the primary reason for people to choose to remain living in the barracks, rather than immediately returning to their village. Their reasons included; the safety or schooling of their children, or because access to food and medical assistance for their children was easier at the barracks. For instance one woman, Nurbayani, said: 'Yes we wanted to return to the village, sometimes we

women stayed in the barracks and the men came home here. Later there was work cleaning the village and those people got a wage'. Another woman, who has four children also decided to stay in the barracks. She said:

> All the males came home here [to the village]. When we move from the tent to barracks there were no husbands, with [our] children we move our things to the barracks. The males were here [in the village], and we were there [in the barracks]. So what to eat, we were given oil and [uncooked] rice, there was nothing for *lauk pauk* [side dishes] … Yes before the houses are ready we were there [in the barracks], when the houses are ready we straight away leave [the barracks]. Before our house is ready we come home here, [we] built a little *pondok* [hut on stilts]. There were *rumah bongkar pasang* [dismantle-able shelters] and those who didn't have one built a *pondok*.

This participant described her family building a *pondok* (a wooden platform) to stay overnight in the village, even though she and her children remained living in the barracks until their house was ready. This indicates their desire to remain connected to their village. Another example is from Nurlaila, although her husband returned to the village, she and her son stayed in a hut while the houses were built. Indicating her child, Nurlaila said: 'he was still small, couldn't walk yet, at the time there were rocks scattered around here, there were parts of roofs. The main thing was here [we] could not walk. At the time the street wasn't ready yet. So we came here when the houses were ready'. Some participants lived in the barracks for a few months, while others were there for up to 3 years, only returning to the village once houses had been built. Although housing was one part of conditions necessary for families to return to the village, it was not the only condition. For example, Syukriati explained that 'if there were already houses [but] no school yet, I did not want to return [to the village]'.

In addition to the people staying in emergency camps, and later barracks, some members of the village evacuated to stay with extended family. For example, Bustami, his wife and their two children went to stay with his wife's mother in her village following the tsunami. Bustami explained that 'it wasn't possible I live here [indicating the village], there was no barracks to live in, my children are still small, so I live there [in his wife's village]'.

It is unclear how many village members decided not to return to the village. On one occasion I met a young woman who was visiting family in the village. She was originally from the village yet she chose not to live there because of her trauma. She was visibly traumatised by visiting the village. I did not ask to interview her nor did I seek to interview those who had left the village as that would have been outside the scope of this research.

6.4 Returning to the Village

Emergency camps and barracks offered food, clean water, medical treatment, communications and potentially information about missing relatives. In contrast, in the village, all the basic necessities for everyday life were difficult to access. In those first few months, any shelter had to be built by hand, there were no cooking utensils, no clothing, no tools for rebuilding, and yet in those difficult circumstances many participants returned to their village.

Although the village largely evacuated together as one group, they returned at different times. Many participants described returning to their village 'not long' after the tsunami occurred; this was anywhere from one to four months after the tsunami. Nurmala, for example, returned two months after the tsunami, while Sofian returned three to four months after the tsunami. As the main coastal road between the village and Banda Aceh had not been reconstructed at this time, travel to the village was either by small boat or overland on foot.

A distribution post for food and water was set up in a neighbouring village. Zaimuddin recalls the large ship that brought fresh water, food and blankets that was parked in Lhoong, in the same district as their village. This same ship is drawn in another participant's drawings of the post-disaster village, for this participant the ship is a symbol of the arrival and departure of aid (see Figure 7.6 in the following chapter). However, Jamaliah explained that sometimes it was difficult to get food from the aid post. Another participant, Rohani, described being able to survive in the village because one of her children came to find her and carried with him 10 kilos of *beras* (uncooked rice). The wife of the Lhok Seudeu leader, Jamaliah, described the unique circumstances at that time and making the journey from the village to Banda Aceh:

> In truth if we were ordered to go to Banda Aceh now just by walking [we] wouldn't be able to anymore, [but] at that time, in one week who knows how many times we go back and forth, back and forth, walking together the two of us

This participant's husband, Zaimuddin, explained that around 4 months after the tsunami occurred, the road along the West Coast of Aceh was being built by the army which would improve access to the village and some stoves were donated to the village which made every day life easier.

6.5 The Desire to Return Home to the Sea

The English term 'home' does not translate simply into the Indonesian or Acehnese languages. *Rumah* (or *rumoh* in Acehnese) can be translated as house in English and could encapsulate some of the values of the word home. However, the more meaningful term is *pulang*. *Pulang* is a verb, rather than a noun, and it means to go home. This term means a physical movement from one place to a place of significance, to *pulang* is to return to a place of personal, family or cultural significance. It may be a place where someone was born, or where their family originates from. *Pulang* can be attributed to a house, a village or a broader landscape of place.

When asked about returning to the village from the emergency camps one participant, Nurmala, explained that 'we were desperate to come home here'. Nurmala used the phrase '*nekad pulang*' which describes her desperation to return home, this is not simply her wish or her preference, but rather her fundamental need to go home.

Central to participants' description of returning home was the need to return to living in their coastal environment. Instead of feeling safer when moved to emergency camps inland, these participants said they were uncomfortable being away from the sea. Syukriati explained that:

> For us it is normal to live on the edge of the sea, we already don't feel [afraid]. Instead if we live far from the sea it isn't comfortable. Another

> reason is our livelihood comes from the sea. For example if [we] go to the city for just a moment [we] already have a headache.

Jamaliah's expresses a similar point of view: 'because [we are] fishers, so [we are] not afraid of the sea, so [we] don't want to stay in Banda Aceh.' Although Jamaliah herself is not a fisher, she classes herself as part of the fishing community. Despite the recent tsunami, both of these women said that their desire to live by the sea was so strong that soon after the disaster they wished to return to their village with their families.

The sea itself was part of the participants' sense of home. This view is articulated by the leader in Lhok Seudeu. He described the intrinsic importance of the sea, not simply as something close by, but as part of their lives: 'whatever the cruelty of the sea, we are children of the sea. Steadfast, [it is] the sea we search for, don't [say we have to move] 50 metres from the sea[35], it is above the sea that we are brave'.

In the years since the tsunami the participants have continued to experience strong earthquakes, quakes triggering tsunami warnings have occurred at least three times since 2004. Their choice to live as sea people and return to their home with their children is not a light decision, and it is not based on a lack of knowledge. This decision was taken because they view the sea as an intrinsic part of their lives and who they are as people.

The participants' drawings presented later in this chapter feature both the mountains and sea as key elements of the village. One participant's drawing in particular encapsulates how important that landscape is to their identity (Figure 6.3). This participant is a fisher. His drawing shows the key features of this landscape; hills, sea, the main coastal road and fishing boats.

[35] Here the participant is referring to the local Government proposal to implement a 500 metre buffer zone between the sea and houses.

Figure 6.3 A participant's drawing of the village landscape featuring the sea, mountains, fishing boats, and the main west coast road in Aceh.

As one participant, Syarifuddin, explained: 'we live close to our income, the source of our income is the sea. We are also close to the mountain so if someone cannot go to sea they can search for their living in the mountains. The sea and the mountains, these are our opportunities'. Figure 6.4 was drawn by a child while his Grandmother was drawing her impression of the village. I started to draw pictures with the child so that his Grandmother could continue her drawing uninterrupted. I expected him to want to draw cartoons, but instead he wanted to draw his village. The child's drawing captures those same key elements of the sea, a fishing boat, mountains, the main coastal road and a house. Therefore, rather than the sea edging the village, it appears to be a key component of the village.

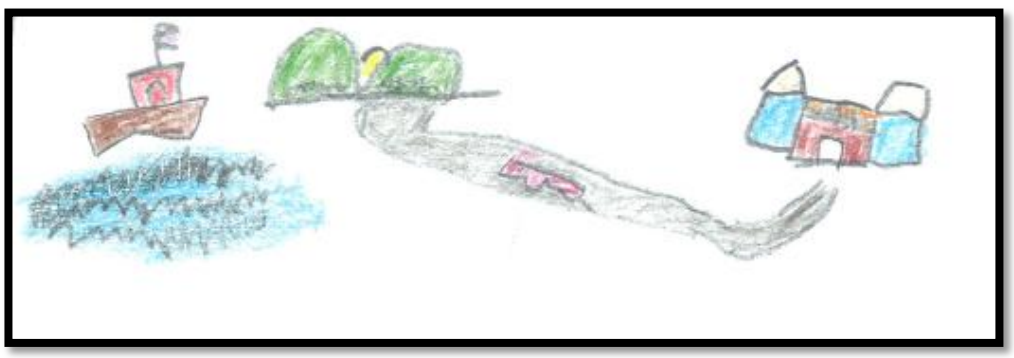

Figure 6.4 A child's impression of the village.

A further example of the participants' strong desire to remain living in their pre-tsunami home was their decision to decline housing offered to their village on the East Coast of Aceh. The proposed relocation was several hours driving from their current location. In separate interviews, Zaimuddin and Muhammad Yusuf argued that if housing aid was conditional on moving, they would prefer to continue living in their own place on the coast and go without aid. When they declined the housing offered on the East Coast they had no guarantee that any other housing aid would be offered to them. Another participant, Jamaliah, explained:

> At first there was no aid to make a house because it [our location] is close to the sea, so we say we are not afraid of the sea…They said they will not build houses [here]. No problem we say, we can live in huts. Then finally there is permission [to build houses].

Zaimuddin, the leader of Lhok Seudeu, similarly described a deep sense of belonging to this place:

> Build houses or don't build houses, I was fixed here. It was not that I didn't need a house, but if it was possible to build then build [it here], if it was not possible to build then that was that... I was definitely going home. … There are many other communities who did not go home to their village until they could go home to a house; now that is the wrong way around according to my own principles.

He goes on to say that even though they were offered one hectare of land if they moved to inland to Jantho; 'it isn't possible for us, [it isn't possible] for people who hold a fishing rod to be given a hoe'. For this participant, despite the damage that had been wrought by the tsunami and the difficulty of meeting basic needs for food and clean water, he described the village as having everything he needed for his life.

The leaders comments about the importance of continuing as fishers within this fishing community hints at how important this is for their identity. Their connection to place was grounded in their daily activities and the socio-cultural, economic and environmental practices this entailed. Thus, participants expressed a need to return, not just to their place, but also to their livelihoods. For example, Nurmala said; 'I didn't want to sit in the barracks there. My head ached, just eating, I didn't want to

be like that. I had to come home here'. Nurmala used the phrase '*tinggal makan'* which I have translated as 'just eating', but this phrase also suggests that she is 'just surviving, only eating'. She continues; 'it wasn't normal. Before the tsunami I work for my income, after the tsunami I have to work for my income too. We think of our children, to improve their future'. Nurmala's need to return to village life was tied to her sense of worth and identity. Rohani tells a similar story. In the barracks she cooked snack food 'without an activity, I have a headache, just sitting [still]'.

When asked why he returned to the village one male participant, Syukran, explained:

> I don't know. It is true that it is what I, myself, wanted. When [I'm] in the barracks I'm lazy, I don't want to work, there was nothing, I just sleep. In fact, people in the tents said that I am the elder…so how would it be, [when I'm] not happy. After that I came home to my village, look at the village …collapsed, broken. So rather than just stress, [I] came home.

Although returning to the village and seeing the destruction was difficult for this participant, being in the barracks with nothing to occupy him but his stress was also traumatic. As an elder he wanted to set an example, and so he decided it was better to return and begin working than stay with nothing to do in the barracks.

At the time of interview Yusran was 21, making him around 14 or 15 when the tsunami occurred. He said he stayed in barracks for 6 months before coming home. He talks about his reasons for coming home to his village:

> it wasn't nice in the barracks because it was someone else's village… Better to be in [our] own village… In [our] village we can go to sea, can look for money, if [we are] in the barracks we are just using up our money. That is why [I] come home [to the] village.

Yusran said that there were many people already here when he came home, 'but [it was] still sad, sometimes crying at night, better to [be] working during the day and staying with friends at night so the sadness quickly disappears'. For Yusran, even though it was sad when he came home, being home helped him recover as he could be busy working during the day. He said that at night he slept in a *balai* (shelter), there were 30 people sleeping there and also some in tents. After two years in the

tents he said that aid in the form of '*rumah bongkar pasang'* easily dismantle-able shelters arrived.

Participants' use of the idea of home was not restricted to the physical structure of a house, but arises from a broader sense of place-based home. For example when Nurlaila described her husband going home she said he returned to the village place. When Nurlaila talked about her husband returning from fishing, she differentiated between going home (*pulang*) and going home to the house (*pulang ke rumah).*

6.6 Beginning to Re-build

Participants did not expect housing aid. Zainuddin, for example, explained that they expected to return to the village and build their own *gubuk*[36] (hut), and to adapt it slowly overtime when they had saved money or materials. Amir described returning to the village and beginning to clean away debris. He said that many participants were building their own wooden huts from debris found in the village (Figure 6.5).

[36] The term *gubuk* could be translated as hut, shack or shelter, I have chosen to use the word 'hut' in English in order to differentiate the *gubuk* built by participants following the tsunami from the shelters donated by INGOs. This decision is in keeping with the participants own differentiation, they also use the English term 'shelter' when talking about those donated by the INGOs and *gubuk* for those huts they built themselves.

Figure 6.5 Examples of gubuk (huts) in the case study site.

Figure 6.6 Gubuk (huts) in the rice fields in the same district as the case study site.

The *gubuk* are different from the wooden houses on stilts known as *pondok* which are also a form of wooden hut. A *gubuk* is lower to the ground and may be more rudimentary than a *pondok*. Although a *gubuk* can be durable it is intended to be occupied intermittently rather than fulltime. The *gubuk* huts built in the case study area are similar to those structures built in rice fields or other farmed land, both before and after the tsunami as accommodation for farmers to stay in overnight so that they can care for and protect their crops from animals (Figure 6.6). Such huts are also built by young males in anticipation of marriage or after marriage as their first house outside the family house. Fatimah said:

> if [they are] already married [and] if there is money children will usually build their own house, that is a *gubuk*. Like us too when we were married and had one child [we] had moved house and built a *gubuk*.

M.[37] Nasir said that 'many people lived in a *gubuk* before the tsunami'. Bustami, for example, said that his older sons sometimes sleep at a friend's house or in a *gubuk*.

The quality, size and durability of those *gubuk* varied depending on the family's wealth and what was available at the time. This is because very few people in Aceh are eligible for a mortgage; only government employees have a guaranteed income and pension when they retire. The majority of participants are either fishers, farmers or own small businesses (such as cafes or stores). None of these occupations provide guaranteed incomes or pensions. Furthermore the fishing season is only for 6 months of the year, dependant on the winds. Although it is common practice for people to borrow money from relatives, this was almost impossible because of the widespread impact of the tsunami. Therefore, participants' had very limited access to funds and materials for rebuilding houses.

6.7 The Arrival of Aid Programs

In addition to the emergency supply ship I mentioned earlier, participants did receive one-off donations of goods throughout the reconstruction period. These included boats, seedlings, a community meeting house/childcare house, as well as a generator.

[37] Mohammad is a common name in Aceh and is indicated using the prefix 'M.'.

In the first year following the tsunami two aid programs were targeted to support people who had returned to the village. One was a cash-for-work program and the other was the donation of shelters, however both programs were only available to part of the population (it is unclear from the interviews why these programs were not available for all).

In a cash-for-work program run by Mercy Corp people received a nominal sum (IDR 35,000 per day or approx AUD$3.50 at the time of interview) to work on cleaning up the village, which included moving debris as well as salvaging materials that could be re-used. It is not clear how much of an impact cash-for-work programs had in encouraging people to return to the area, because only those people working in one part of the village received this funding. Those working on their own land or in another part of the village did not receive this funding. Many people had already returned before the cash-for-work program began, and those that remained in the barracks did receive government funding to cover everyday expenses. However, one participant who described herself as a business woman was able to restart her business by selling food to people working on the cash-for-work program. Another participant, Nurmala, explained:

> Two months after the tsunami [we] come home to here, we work … we save the money. Every morning at 6am we already standing-by here [for the cash-for-work program] while our children stay there [at the barracks]. We find our livelihood here.

Nurmala described how after midday she and her husband would look for materials to build a *gubuk*. On returning to the village, participants thus began the process of building huts. Mahfuddin described their expectations following the tsunami:

> Originally we guess that we don't have anyone who cares about the [tsunami] victims…So we think we will go home to the village, farming, making small huts, like that. Then came the shelter[38], we think maybe this can be our house, like that. It turned out not to be like that, there was a lot of aid, it was said the

[38] This participant is referring to the shelters donated by INGOs, rather than those participants built themselves.

> money in Aceh we [could] stack it up to the sky ... it is really a lot of money in Aceh.

The *shelters* he talks about were donated to the village by Muslim Aid. The village was given around 70 shelters, though it is not clear why some people received them and others did not (Figure 6.7). Some participants lived in the Muslim Aid shelters for about two years before houses were completed by World Vision in 2007. Some participants kept their shelters and attached them to the back of their houses and continued to use them as extra rooms after their house was built. People without shelters have built or kept their self constructed shelters for extra rooms at the back of their house.

Figure 6.7 Examples of donated shelters in the case study area and adaptations of a donated shelter.

The wooden shelters reflected the type of shelter participants expected to build following the disaster. Even when one participant returned to the village, having lived in barracks for 3 years, she built a *gubuk* to live in with her children before receiving an aid house. For example one participant said that 'the absolute most [we thought of] was a wooden house, not a permanent one, we weren't able then [to have

a permanent house]. The very most was a wooden house like that'. For this participant, his highest expectation was to rebuild a wooden house, he did not have an expectation that a permanent (meaning masonry construction) house would be possible.

6.8 Conclusion

In this chapter I have explored participants' experience of home in the context of the tsunami and its early aftermath. Their agency and deep sense of connection to their place is evident both immediately following the disaster and later upon their voluntary return to the village. In the first week following the tsunami, they did not wait for fresh water to be donated to them, but drank coconut water and repaired a well that had been damaged by the tsunami. They then endured an arduous walk overland to the emergency camps. Later they returned either by boat or on foot to begin cleaning and rebuilding their village. They used what was available to them, what could be salvaged and remade.

The strength of their connection to home drove some participants to return quickly, even though the village was the site of profound trauma. A key element in their desire to return was their bond with their coastal environment. For many participants associations with the sea were more to do with home and belonging than fear and danger. They chose to return, even though their village lacked the most basic supplies, making living conditions very difficult. Reflecting this, participants rejected a proposal to move to another part of Aceh where houses would be built for them, despite the fact there was no guarantee they would be provided similar aid in their village.

Participants expected to be rebuilding their houses. In a similar way to a newly married couple, on returning to the village, many built small wooden *gubuk* to live in. It was expected that over time these huts would be rebuilt, expanded and adapted, as was common practice before the tsunami. It was expected that both the quality of the materials and the size of the hut would be improved in the future. These participants were unaware that they would soon be given permanent housing.

These people neither expected assistance nor waited idly for it to arrive. In fact, some participants actually found being unoccupied in emergency camps and temporary barracks more difficult than returning to their everyday livelihoods. Without purposeful activity they were left with only their memories of the tsunami and those they had lost. These participants returned to their pre-tsunami home because of a desire to return to everyday ways of life, prepared to work for as long as it took to clean up their village and to be productive again.

Many participants thus retained a strong sense of home despite their trauma and the destructive force of the tsunami. The material presented in this chapter demonstrates clearly that this sense of home persisted because the place in which they live and their way of life is an essential part of their sense of identity, belonging and purpose. Home, for these participants, was more than a physical shelter. Home was embodied in their landscape and way of life. Home had not been wiped away or destroyed by the tsunami.

In Chapters 7 and 8 I consider how the construction of post-disaster housing by INGOs has affected participant's sense of place and home. In Chapter 7 I investigate how the new housing has challenged participants' experience of rural village life, before delving into how the houses are inhabited and adapted to suit everyday life in Chapter 8. In Chapter 9 I return to the topic of the agency of participants, when I examine how they acted in the rebuilding process and their interactions with INGOs.

7. Relocation and Reconstruction: Transformations of the Village Landscape

7.1 Introduction

In the previous chapter, I discussed the importance for the participants of returning home to their village by the sea and restarting their daily activities. Both the INGOs who rebuilt housing in this case study chose to relocate the houses on farming land away from the sea rather than rebuilding in the original location. In this chapter, I consider the impacts of the INGOs' settlement designs on the way of life and land-use practices of those in the village. In this chapter participants explain relocation as both repositioning the houses inland from the sea and as the changed settlement layout. I consider the impacts of relocation in the context of other risks identified by participants, in particular how relocation has affected their livelihood options.

7.2 The Pre-tsunami Village

The case study area contains one *kampung* (or *gampong* in Acehnese), meaning village. Both prior to the tsunami and today it is known as Layeun. Layeun is a fishing community; its name is possibly derived from the word *nelayan* meaning fisher in Indonesian. Prior to the tsunami the majority of houses in Layeun were settled in one bay. These houses had been built between the ocean and fish ponds; behind the fish ponds were flat rice fields and then forested hills. In a participant's drawing of pre-tsunami Layeun it is possible to see one large neighbourhood of houses within a large bay, then a scattering of houses edging the main road which has been drawn in red (Figure 7.1).

Prior to the tsunami, the village of Layeun was organised into four *dusun*. A *dusun* is a small neighbourhood of houses with an elected leader. Three of the *dusun* were grouped together while the fourth was made up of the houses dotted beside the main road. Figure 7.2 shows the location of the four *dusun* pre-tsunami. One participant's drawing of pre-tsunami Layeun shows how three of the *dusun* were grouped together between the beach, fish ponds and school (Figure 7.3). The names of these *dusun* reflect their locations; for example *dusun ujung* meaning at the end, *dusun tengah*

meaning in the middle and *dusun seulaweut*[39]. *Seulaweut* means to pray and this *dusun* was where the Mosque stood pre tsunami[40]. Delisa is a primary school teacher at the school at the end of the bay. This location is also the border area between this village and the next. When Delisa described where she works she said '*di ujung'* or 'at the end'. Delisa's statement has two meanings as this is both the name of the place and a description of the place in the landscape.

The fourth *dusun* was known as Lhok Seudeu pre-tsunami, and still has this name today, *lhok* meaning deep bay. As one participant pointed out, this name is written on many maps, even though the maps are not village scale. This may relate to the bay's importance for fishing boats. One participant, who was a fisher, drew Lhok Seudeu pre-tsunami from the perspective of being in the ocean (Figure 7.4). From this perspective it is possible to see a bay edged by hills with a fishing jetty where the fishing boats unload their catch. In this drawing there is a main road and several different houses. It is interesting to note that the houses are of different sizes, with some being on stilts and some on the ground. A second participant's drawing of Lhok Seudeu is from the perspective of the hills behind Lhok Seudeu pre-tsunami (Figure 7.5). This participant is also a fisher and has drawn the different types of boats, the various types of houses, the fishing jetty, fish ponds, the main road and the hills surrounding the bay.

[39] Alternatively *selawat.*

[40] The Mosque has been rebuilt in the rice fields, parts of the pre-tsunami Mosque are visible on the hill behind the village, as it was picked up by the tsunami wave and brought overland to be left on the hill.

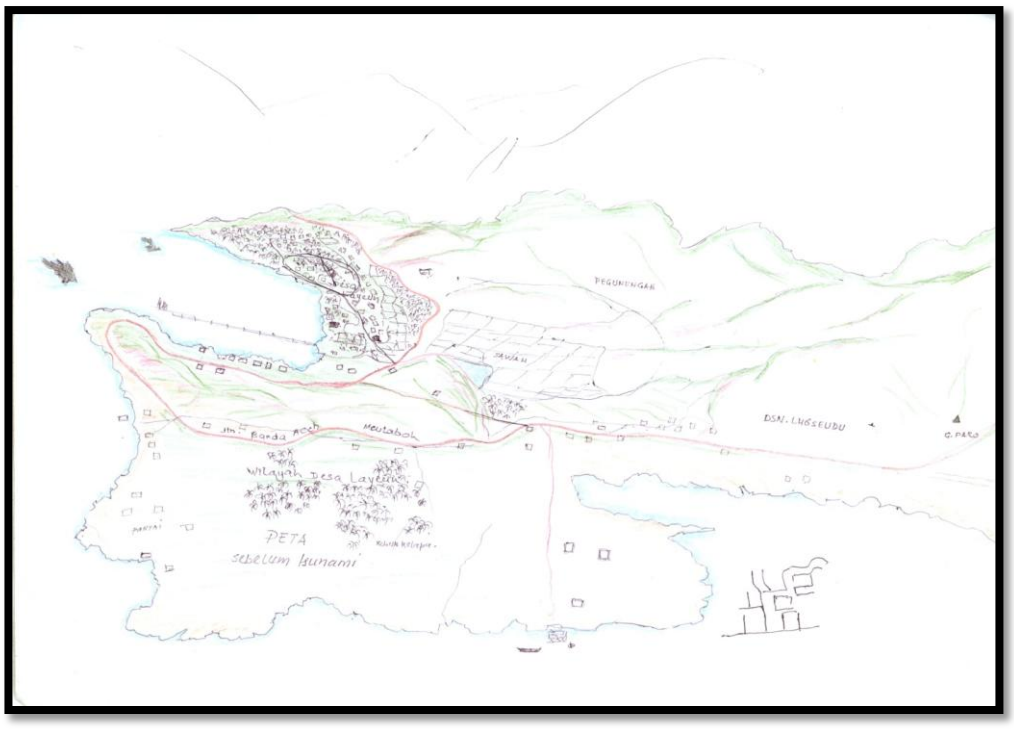

Figure 7.1 A participant's map of the case study area pre-tsunami showing the sea, hills, houses, trees, fish ponds and rice fields, with the main road drawn in red.

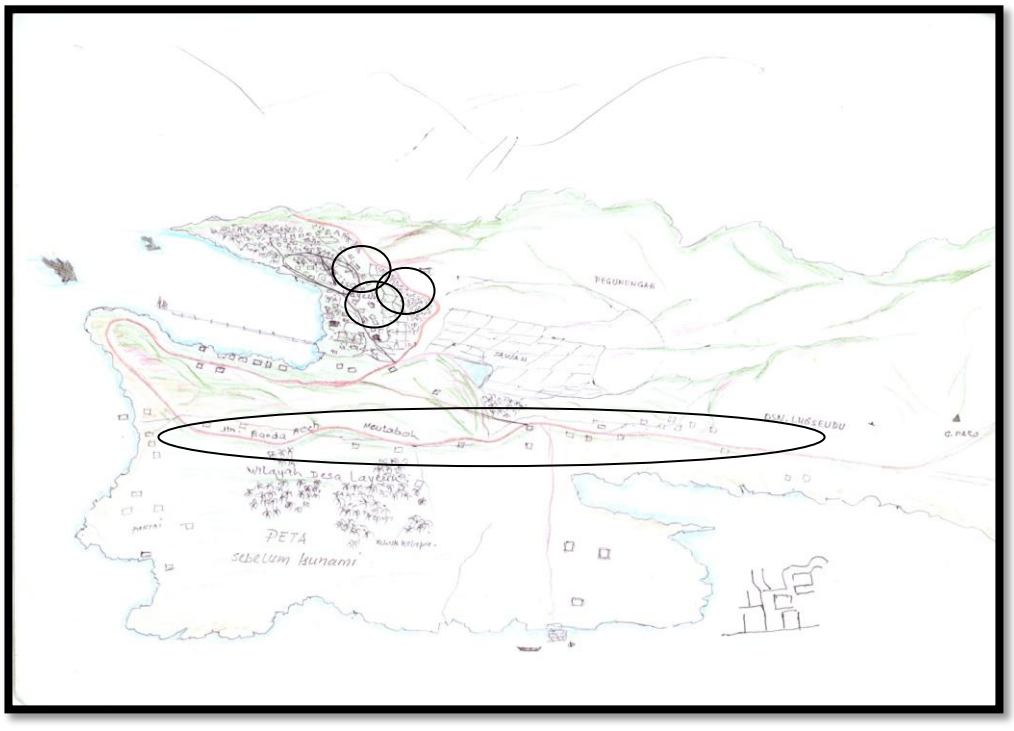

Figure 7.2 Participant's map of pre-tsunami case study area with four dusun circled.

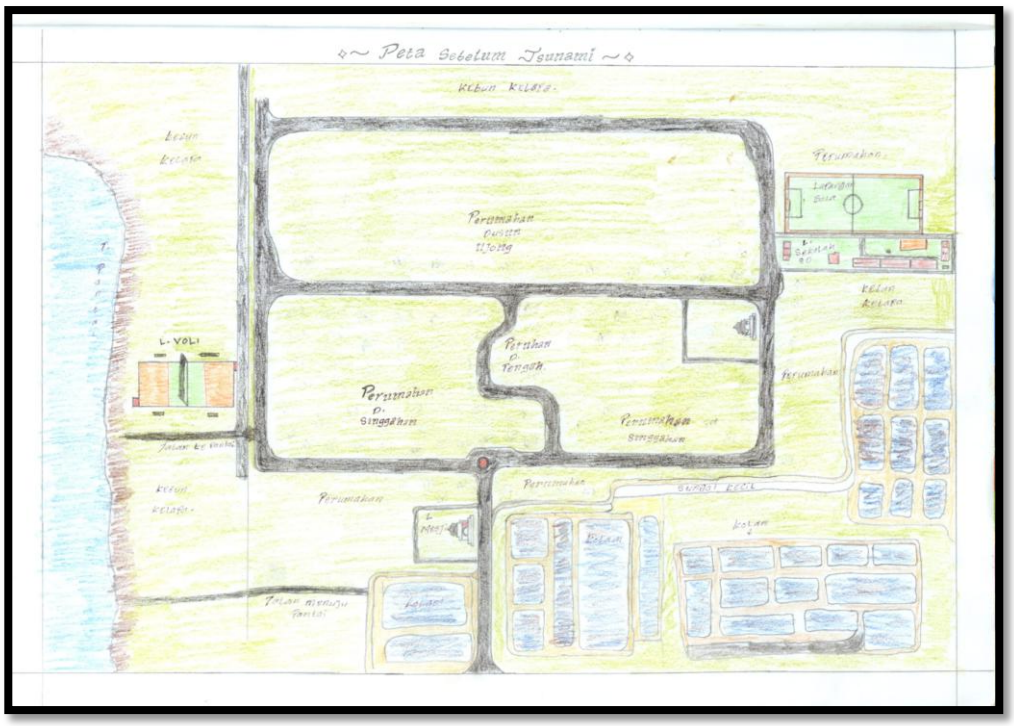

Figure 7.3 Participant's drawing of pre-tsunami Layeun showing three of the dusun grouped together between the sea and the fish ponds. The drawing also shows the location of the Mosque, school and volleyball court pre-tsunami.

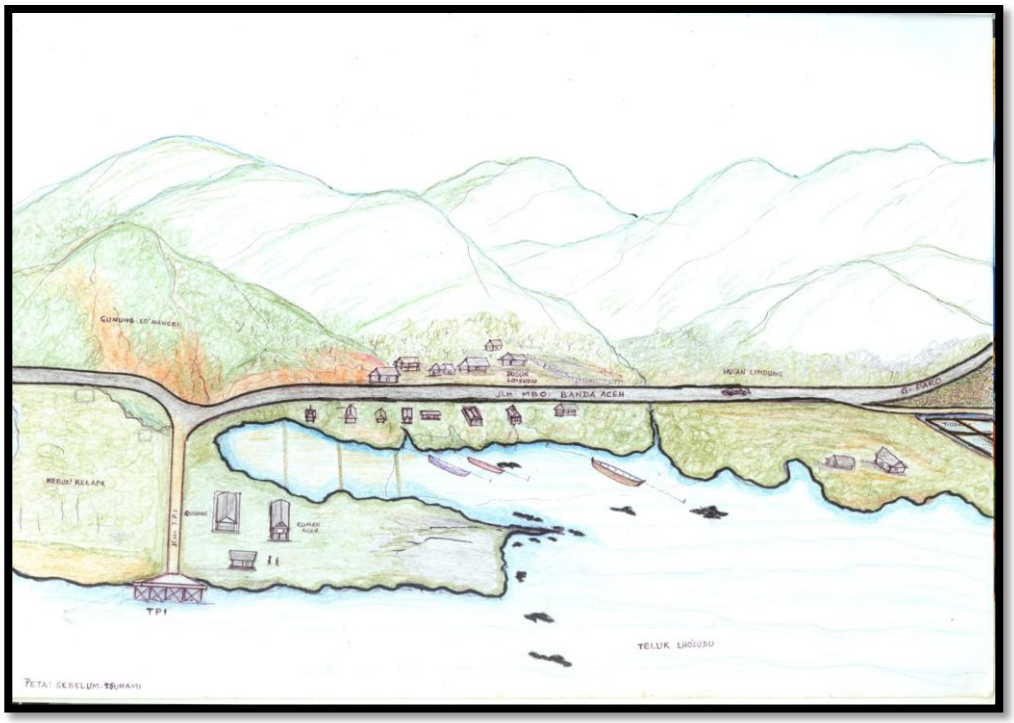

Figure 7.4 A participant's drawing of Lhok Seudeu pre-tsunami.

Figure 7.5 A participant's drawing of pre-tsunami Lhok Seudeu.

7.3 From Rural Clusters to Suburban Complexes

Participants describe their village as being part of a rural environment. Several participants describe spending weekends pre-tsunami with their family on their farming land, they would leave their house in the village and stay overnight in *gubuk* (huts). One participant, Fajar, for example compares the capital city of Banda Aceh and the case study area: 'here we are a bit relaxed, in Banda Aceh it is already very crowded and full, if there is something I need I only go there for a moment and then straight back here.' When people have spare time or if they want to relax, Fajar says that they go to their farm gardens: 'if it is crowded [such as on a holiday] there is no more serenity, but like this [indicating the week day] it is quiet'.

In a group interview, two women discuss the differences in their village environment pre and post-tsunami. Zainabun said that before the tsunami 'the houses were scattered, we fenced them ourselves and looked after the land ourselves'. She used the term '*berpencar-pencar*' to describe how the houses were scattered about the land. Rahmah added that there were 'banana, mango and guava trees' around the houses. Rahmah said that everyone's yards were different sizes: 'because before the yards were wide, not like now, now they are small. Before for example here was the house and in front [we] could grow whatever trees we like, at the back [of the house]

there were chickens, not like now, now it is small'. Rahmah added 'before the land was busy with coconut trees, if we really need it we can cut those trees to make a house'. During their interview the women drew where the fruit trees were around the house. They also talked about the fruit trees on community land, when those trees are small people would fence them to protect them from animals. These trees were owned by people in the village, the women explained that everyone would know which tree belonged to which person. These women's descriptions provide an image of a rural lifestyle pre-tsunami.

In participants' drawings of the village before the disaster, the 'scattering' of houses is evident, together with the different types of houses and their varied locations (Figures 7.4 and 7.5). In contrast, their drawings of the post-disaster village feature uniform, square houses (Figure 7.6, 7.7 and 7.8).

Figure 7.6 Participant's drawing of semi-permanent housing post-tsunami Lhok Seudeu.

Figure 7.7 Participant's drawing of permanent post-disaster housing in Lhok Seudeu.

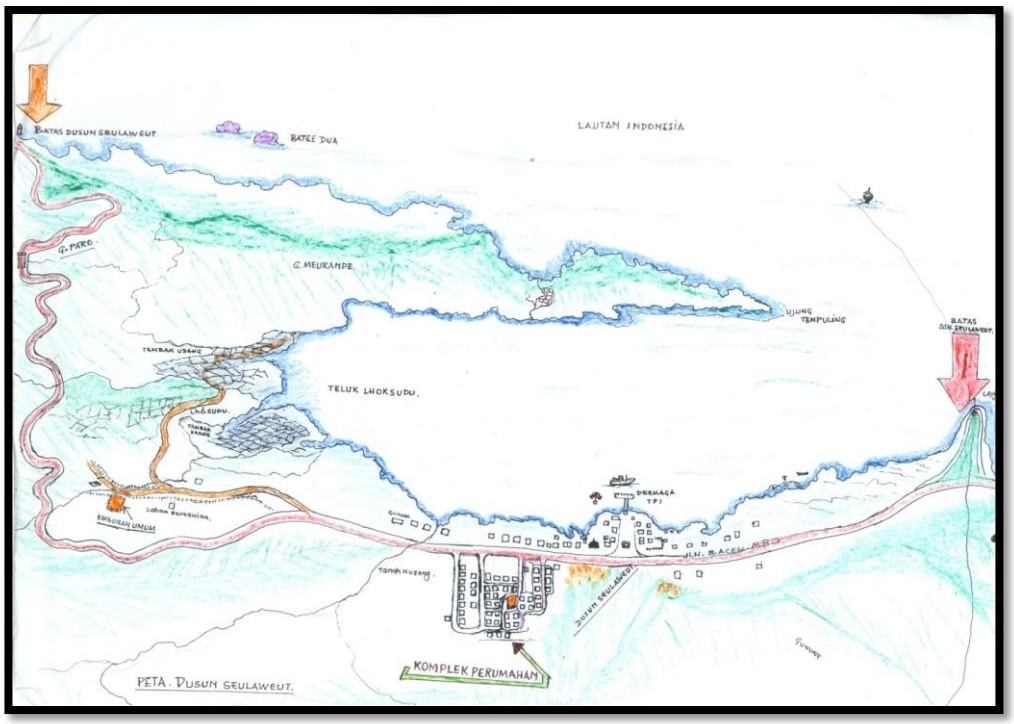

Figure 7.8 Participant's drawing of post-disaster 'complex' style housing in Lhok Seudeu.

In Lhok Seudeu, the houses that were previously dotted along the main road have now been grouped in one ‘complex’. For participants the houses had been resettled in

a suburban pattern reminiscent of housing in the capital Banda Aceh. For example, Jufrijal said: 'before [the houses] were more spread out, now it is like *perumnas*[41] [government built housing], before it was not like this, but not that far apart [either] maybe ten metres'. M. Razi also compares the new house layout to a government built housing complex: 'in our opinion it is already exactly like the *perumnas* housing, it is the same as if we live in a complex … but before [these houses were built] when we could build [our own] houses we did not feel as if we live in a complex as such'. Describing the layout of aid housing, M. Razi states '[it is] like being in a city'. One participant memorably described the houses looking like ballot boxes: 'For the houses here, if [we have] no relationship [with them] they are like a voting box … We see them from the top of that mountain, they look like hundreds of boxes'. Another participant, Amir, also compared his pre and post tsunami village layout: 'in the past the houses were over there [indicating pre-tsunami location], now [the houses are] already in one place, like a complex'. When asked what he thought of the new layout, Amir said he is 'just happy, at first it was foreign like that, but now it is better'.

Although it was different to their pre-tsunami lifestyle, several participants said that they were happy living in close proximity to other houses. Jamaliah, for example, whose husband was ill at the time of the interview, said it was good to live close by when someone is ill because it is easier to call for help 'so if there is someone sick we can quickly get help, now there are many who are very close by'. Another older participant also said that they enjoyed being able to sit in front of their house and see other people.

In one group interview the women said they were used to living close together after living together in the barracks. They also explained that they found it reassuring when there was an earthquake there were other people around:

> The environment is different. Before [the tsunami] houses were far apart, now already close (laughs) … sometimes there are also problems ... problems with neighbours, [but we] don't have to be open, tomorrow we are already back [to normal] again … [It is] already normal for us [because] in the barracks [we

[41] *Perumnas* is short for *Perumahan National* the National Housing Authority.

> were] close together too … For us now [we] want to be close like this, it is true, because we already feel the disaster, already feel afraid, we have trauma. If [we] live alone and sometimes there is an earthquake we're already scared, but if [we live close together] like this and there is an earthquake we go outside and it is already busy with people.

This participant noted the changes in the social dynamics of the community since the tsunami. One the one hand, people are now more aware of their neighbours' domestic issues, because they can hear each other due to the proximity of the houses. Participants' talked of the need to be patient and to respect their neighbour's privacy now that they live close together. This need for patience was also because their neighbours might not be family members. On the other hand, this participant noted that it was comforting to be living close together given their recent tsunami experience.

7.4 From One Village to Two

A key transformation of the village landscape was that this one village was rebuilt as two distinct settlements instead of rebuilding on participants' pre-tsunami land. Pre and post-tsunami the village comprised of four *dusun*, however the makeup of these clusters, where they are located and how they are arranged, is very different today from the pre-tsunami village. In the case study area today it is possible to identify two clearly different groupings of houses (Figure 7.9). There are 163 houses built by World Vision, they line two sides of one 'U' shaped road which branches off the main road running through the village. These are uniform in design and all were originally a pale pink colour. The World Vision houses account for three of the *dusun* within the village. These *dusun* are now known as Layeun *satu, dua* and *tiga* (or one, two, three) hereafter Layeun (1-3). These numbers indicate the order in which parts of the village were rebuilt, Layeun one being the first section to be built. There is a hill between these *dusun* and the fourth *dusun* which retains its pre-tsunami name of Lhok Seudeu. There are 50 houses in Lhok Seudeu built by Oxfam – these sit in a square grid pattern. There are two colours of houses and two

designs[42]. Without reading the registration sticker at the front of the house which states which INGO funded the houses, it is not possible to visually identify them as either World Vision or Oxfam houses[43]. However, due to their uniform colour and design, they are clearly identifiable as INGO housing projects.

It was common for more than one INGO to work in a village. For example, four INGOs built housing in the neighbouring village. However, in the case study the physical separation and the visual distinction between the two projects divide the village in two. Furthermore, the inhabitants of the houses have now experienced two distinct housing projects, built over different time scales and have houses of differing quality. I will return to this topic (of two villages in one) and the impact of the INGO programs in Chapter 9, where I explore how the creation of two distinct groups of houses has challenged the identity of this village. For now, I will consider the effect of reconstruction and relocation on the village as a whole.

Figure 7.9 Google Earth image of Layeun. Four dusun indicated in red.

[42] The Oxfam houses were built in two stages, in the first stage semi-permanent houses were built, in the second stage these were knocked down and replaced with permanent houses. I will discuss this in more detail in Chapter 8.
[43] In contrast to other IINGOs who put their symbol on the front of the houses.

7.5 Relocation: From the Sea to Below the Hills

The aid houses built in the case study were built within the village boundaries, however they were built on farming land not on the inhabitants original plots of land. Both INGOs chose to reconstruct housing inland from the ocean in an effort to reduce the inhabitants' risk of future tsunamis. In Figure 7.10 I have circled the pre-tsunami location of three of the *dusun* in Layeun in orange, and the new location of the houses is circled in red. In Lhok Seudeu, the fourth *dusun*, the houses pre-tsunami were dotted along the main road, post-tsunami the rebuilt houses were grouped together on the side of the road away from the ocean.

Figure 7.10 Google map of Layeun post tsunami. Pre-tsunami location indicated in orange, post tsunami location indicated in red.

Figure 7.11 Location of post-disaster Lhok Seudeu indicated in red.

Participants view the relocation as a compromise. This compromise was described by one participant as '*relokasi dalam satu gampong'* meaning relocation within the one village. Although they were not moved to another part of Aceh, the participants reported feeling that they had been relocated. As one participant, Syarifuddin, explained:

> The first thing that is different [after the tsunami] is the difference in the place, we were over there before the tsunami, on that side of the road, after the tsunami we are on this side of the road, relocation, relocation, what is the name, within one village that is relocating the place not relocating the village.

In Chapter 6, I outlined how living in their own place was of central importance for the participants. I explained that when they were offered housing aid in another part of Aceh they declined this aid and chose to remain in their village even though they did not know if other housing aid would be possible in their village.

One participant who held a leadership role in the village explained that on receiving instructions from the government for houses to be 500m from the sea, his reaction was to state that they would not be moving. 'We are not afraid' he said. Another participant, M. Razi explained the confusion surrounding the directive to move inland. He said that although they wanted to remain in their original place the

instructions were to move. However, he mentions examples of houses in other places being built on the coast:

> for us we *tetap bertahan* [want to stand our ground], we [want] to stay here [indicating pre-tsunami location] and make [our] houses. It turned out that [we] cannot, that we have to move there [to the inland location]. But if we look now, in other places there are houses in the sea. This is what we don't understand. The Indonesian government system was that [we] could not [build here] it turned out that where ever [we choose to build] was ok, so we are dizzy.

Participants were able to cite examples of post-disaster housing in other areas of Aceh being built on the coast, including housing built by the Acehnese Government (through BRR). Although relocation inland was initially a policy of the authority overseeing reconstruction (the BRR) this policy was later abandoned.

In participants' drawings of their village both the sea and the mountains are evident. Yet, as I argued in the previous chapter, it is living by the sea which is central to their sense of home. One participant explained that prior to the tsunami 'our place was *dibineh laot*' meaning not simply close by or near to but rather on the edge of the sea.

The two INGOs projects are built in different locations in the landscape. Where Oxfam has built houses the hills are closer to the sea than they are in the location chosen by World Vision. This has meant that the sea is visible from the houses built by Oxfam. At those houses it is possible to feel and smell the sea breeze. It is possible for fishers and their families to sit outside their house and watch the sea and the boats in the bay. The Oxfam houses are much closer to both the sea and the main road running through the village than those of World Vision. The Oxfam houses are within easy walking or calling distance from the sea and main road and this has important implications for everyday life and livelihoods (I return to this topic later in Section 7.7). In contrast, the houses built by World Vision are separated from the sea by distance and landscape features such as the rice fields, fish ponds and the main road running along the west coast of Aceh. From the majority of the World Vision

houses it is not possible to see the sea. Instead the dominant landscape feature is either the rice paddies or the hill surrounding the village.

None of the participants who live in the Oxfam houses expressed a desire to return to living by the sea. In contrast, many participants who lived in the World Vision houses expressed the desire to return to living in their original pre-tsunami location. The core reason for those participants' sense of relocation is because their new houses are some distance from the sea. One participant explained that while before they were *orang laot* (sea people) prior to the tsunami, now that they have been moved to below the mountains they are now *orang gunung* mountain people. In a similar way to the differentiation between urban and rural people, sea people and mountain people are differentiated in Aceh. Sea people have different cultural connotations to mountain people. For many participants, their original pre-tsunami location, the land beside the sea, remains their home. It is still a place of importance to them. For example, comparing her pre and post-tsunami location, Putri said 'it is good there [indicating the pre-tsunami village], it's our own village, if [we are] here it is behind, there is just only the mountain'. Furthermore, many participants living in World Vision houses said if they had money they would prefer to return and build a house in their original location: 'if we have money, we are more inclined to build over there [indicating pre-tsunami location]'. However they said it was unlikely that this would be possible because they had been given a house and did not have the means to make an alternative house.

7.6 Implications of Plot Sizes for Household Livelihoods

Prior to the tsunami, the space around the house (and underneath the house if the house was built on high stilts) was both a productive space for growing fruit and vegetables and keeping chickens or goats, as well as being a social space for the household to gather with friends and family. For example, Ali's drawing of his pre-tsunami house is dominated by a tree. Ali explained that his family and friends would gather to talk under the tree. However, at the time of interviews there were very few examples of edible garden plots in the village. Due to the fact that the housing site was backfilled with construction rubble and debris before building, the land immediately around the houses is no longer suitable for planting garden crops or fruit

trees. Many participants (both male and female) said that there was a large change in gardens surrounding the houses since the tsunami. For instance Nurbayani said:

> Very different [before the tsunami to now], if [we] want to grow plants there is no longer a place to grow them, before it was spacious, there was a place for growing plants … there were many coconut trees, mangos, guava. If now ... the land is not that good [for growing these plants now], maybe because the land is infilled [after the houses were built]. Before it wasn't like this.

One male participant also explained that there are two reasons for not being able to grow plants. On the one hand, the pre-tsunami land cannot be used because it had been inundated by salt water, and on the other the new land around the houses is too small for fruit trees: 'because it cannot be very wide … Before it wasn't [like this], for example the land for one house was wide, on the house land we grow coconuts, mangos, oranges, we grow whatever we can. But for now [we] don't, the land is small, even if we could grow plants they have not yet borne fruit, but in the mountains it is wide, we can go far looking for a place for growing plants'. When asked if she grows plants in her plot Asiah, for example, said: 'Not possible, the land is very small, only 2 metres, if we farm we run into other people's land'.

Figure 7.12 Examples of how households could cover shared space between two post-disaster houses.

The participants' sense that the village environment has changed from rural to sub-urban housing pattern is also a consequence of a change in the plot size around the houses. The smaller plot sizes has implications for supplementary livelihoods such as small scale farming or keeping chickens, and also has implications for being able (or unable) to expand the house to accommodate children or extended family. While the plot size of households varied significantly pre-tsunami, the houses have been rebuilt on plots of land with 2-3m on both sides and 2-10m for the front and back yards[44]. The amount of yard space surrounding the house was further reduced because households needed to build their own front terraces and kitchens onto the post-disaster houses (discussed in Chapter 8). The possibility of extending the house to the side of the plot is limited unless the household and their neighbours agree to share the space (Figure 7.12).

The plot size allows for limited adaptations to the house, and limits the household's options for domestic livelihoods from garden crops and animals. M. Razi explained that: 'now we just jump and already at the neighbours house. Before we could plant a banana tree anywhere there was space'. Here M. Razi is talking about the freedom of

[44] Households did not choose their own plots, they were randomly allocated using a lottery system.

having a large plot, as well as the importance of this space for supplementary livelihoods and nutrition. While sitting in a *kedai* café in his pre-tsunami location, M. Razi talked about his reasons for wanting to return to live here:

> So our inclination is more to fixing here [indicating his pre-tsunami location] … firstly because the plots are wider here, whereas there is it just tight with the house … over there [where the post-tsunami houses are, the plot of land] is only just fitting for the house … in our Acehnese tradition, supposing we have a house, then at the least there is a *kadang ayam* [chicken run/house], at least one, similarly we would grow a banana tree. So in the type over there [indicating the aid houses we] cannot, because it is small … but what can we say? So compared to [before] our economy now it is very uncertain.

One way of showing respect for the proximity of their neighbours is by having less chickens than before, as one woman, Safrina, explained: '[it is a] bit difficult to keep chickens now because the land is *sempit* (small), before [my] old place was more *luas* (spacious). Now if [I have] too many chickens it annoys [my] neighbours'. Another participant said that she was used to keeping 30 chickens. The chickens provide an important supplementary income, particularly for fishing families who only have income from fishing for 6 months of the year. The proximity of the houses was due both to the new settlement layout and the smaller plot sizes.

One participant showed us some fruit trees given to her by the Red Cross while the post-disaster housing was being built. She was proud of these trees as she said hers were the only ones to survive. She thought that many people had been given seeds or seedlings by the Red Cross, but because she had farming land beside the village she was able to directly plant the seeds in good soil. In contrast, she said other people's seedlings died because they didn't have anywhere to plant them.

If participants move their farming practices into the mountains, these practices would echo the farming practices of their ancestors, yet for many of the people living in the village today this form of farming is unfamiliar to them because they have lived through a period of conflict, during which time it was not safe to wander in the mountains or stray far from the village. For example, one participant discussed how agriculture was affected by the conflict:

> Before the conflict people here farm *cengkeh* cloves. So for our parents life wasn't too difficult, but during the conflict it is hard to farm, people aren't brave. We want to go to the mountains, but uncertain whether we can go or not. So if we look at the mountain now there aren't the trees there anymore, the conflict was more than 30 years, they all died, the cloves. To rebuild [the clove farming] now would be rather difficult ... It is hard for us, some of it we have forgotten [how to farm them].

As this participant explained, the difficulty is not simply that the crops are not there anymore, but that people have forgotten how to farm in the mountains. The proximity of the post-disaster houses to the mountains has also meant that forest animals such as wild black pigs and monkeys from the forest now enter the village and eat the crops. This did not occur when the houses were by the sea because it was too far for the pigs to travel. For example, one participant, Rosmini said that the location close to the mountains means wild animals more readily enter the village to eat the crops: 'actually, before [there were] lots of [vegetables grown here] but after the tsunami there are no more. No one grow them, also many pigs here … also goats'. Zulaika also said that any seeds or seedlings are in danger of being eaten by pigs: 'We grow that coconut, those pigs will eat that coconut, so it is very dangerous here, like cassava he will eat it too, that is what I mean dangerous here'. She commented that it is difficult to prepare daily meals because at the time of the interview the market was far from the village, and the only source of vegetables was a seller who came by motorbike each day. Fences around the house plot and individual plants are attempts to stop animals entering the plots. In addition, now that houses are closer together and there is less land around the houses for goats to graze, the goats in the village are more likely to try to eat the decorative plants at the front of the houses.

7.7 The Cost of Relocation for Women's Livelihoods

Many livelihood activities take place in relation to the house; fishers fix their nets, women cook food to sell in the cafes or stores, eggs and chickens are sold, salted fish are prepared. Small businesses such as stores and cafes are built onto houses. There are three primary livelihoods in the village: fishing, farming and household businesses. Many people's livelihoods depend on fishing, not simply the fishers

themselves, but also those that collect the fish at port, those that dry and sell salted fish, those that take the fish to market, and those who build boats. There are several types of farming, from rice farming, to crop farming such as corn or fruit trees. There are also small scale household businesses such as *warungs*, stores, cafes, laundries, barbers, a store selling drinking water and those who make *kue* cakes for sale. There are many other small livelihoods that supplement the main household income, such as those who collect *rattan* for weaving, sell eggs, or sew.

In Lhok Seudeu, the main livelihood for women is drying salted fish (Figure 7.13) and selling them in the *kedai* stalls (Figure 7.14 and Figure 7.15) which the inhabitants have built along the main west coast road that runs through the village.

Figure 7.13 Salted fish being dried by the side of the road in Lhok Seudeu.

Figure 7.14 Women in Lhok Seudeu gather to talk as they sell salted fish in a kedai on the main road.

Figure 7.15 A woman sits in her kedai to sell salted fish.

These *kedai* line the main road running through Lhok Seudeu. Although it is common to see women selling salted fish, men also share this role. These *kedai* are close to where the fishing boats land to unload their catch, fish are dried and salted beside them, cafes and stores have been built on the opposite side of the road and the houses are all in close proximity. It is possible for the women to go back and forth

between the house and *kedai*, to see the bus that drops off their children from school, to call out to each other, to see when the vegetable seller or other mobile sellers enter the village so they can do their shopping. From the *kedai* it is possible for them to have a good vantage point for the goings on in the village. The sellers watch over each other's *kedai*, if one seller has to return home for a short time, then the others will sell their fish for them if someone stops to buy it.

In contrast, at the time of the research there were no salted fish stalls along the main road where the World Vision houses have been built[45]. On the main road there were three stores/cafes with two more being constructed at the time. These were stores which the owners had constructed themselves and these were where they lived and worked, they were not wooden *kedai*. The racks for drying salted fish were located in the pre-tsunami village near to the fish ponds and at a distance from the houses. The distance between the houses and the potential site of their livelihood is far for two reasons, firstly because the women would be walking along a road without shade, and secondly because they have tasks they need to carry out at their house during the day. The distance makes it difficult for the women to return home to prepare food, look after their children and perform daily household tasks while also preparing salted fish or selling fish in the stall. Masyitah's story is one example of how the location of the World Vision houses makes it difficult for the women to carry out their livelihood. Masyitah said that she left school at 13 because she wanted to work drying fish (known as *jemur ikan*):

> Before [the tsunami] when it was time for us to dry fish, I was [living] there in Lhok Seudeu, [and it was] close by. If for example there were fish, the *toke* came to the house [calling me]: "Tia, Tia, there is fish today, come outside, dry fish" like that. It was good for us.

Masyitah now lives with her husband and young son in a World Vision house in Layeun. However, Masyitah and her husband weren't married when the World Vision housing construction began so they were not given a house. They rent their house from someone who now works in Banda Aceh. When Masyitah first started

[45] The lack of salted fish stalls contrasts the number in Lhok Seudeu as well as the number in Pulut the neighbouring village.

working drying fish her wage was IDR 15,000 per day (approx. AUD$1.50 at the time of interview). She said that the daily wage has now risen to IDR 50,000 per day (approx. AUD$5.00 at time of interview). Masyitah believes that this increase is because the location of their work is now much further from their houses, so she and the other women find it difficult to do the work because of the distance:

> Now the money from drying fish is much higher, 50 [thousand Rupiah] because it is already very tiring. In the past [it was] good because [the] place for drying fish [was] close. Now it is already far like that … before in Lhok Seudeu the drying fish place was busy with people. [Now] already far, far apart. People are sometimes lazy to go because [we are] walking. Before, it was good, busy with people. When [we] go, [we] go together like that because it is all close. Now it is already far, so people are lazy.

Instead of people calling out to Masyitah at her house to come to work as they did pre-tsunami, Masyitah first has to walk to the site and see if she is needed. Masyitah said this is difficult because she has a young child and it is difficult to carry him back and forth and watch him if she is working far from her house; 'after [I am] married and have a child I don't go anywhere anymore, stay at home, I am a housewife, taking care of my child'. Masyitah does say that she may be able to start working again when her child is older, she jokes; 'maybe later [I will start drying fish again]. There are many fish in the sea'.

In addition to creating this division between the livelihood sites and the houses, the relocated houses now occupy land that was farmed prior to the tsunami. In the following section I will examine the implications of using farming land for housing and the financial cost for households to purchase that land from its previous owners.

7.8 The Cost of Relocation for Farmers

The land Oxfam and World Vision selected to build houses on was farming land owned by members of the community. Because of this, both INGOs required each household to have bought the land from the previous owners before the INGO handed over the keys to the house. Participants refer to the price of the land as '*harga sosial´* which means that the price was not the actual value of the land but was rather

a community price which was based on the communities shared tsunami experiences and the lack of readily available funds. It would not have been possible for them to sell their pre-tsunami land in exchange for the plot of land their post-tsunami house was on[46]. Although the Oxfam and World Vision plot sizes are different, both cost IDR 3,000,000 (approx AUD$300 at the time of interview). Depending on the relationship between the house recipient and the land owner, some land was paid up-front and other land was paid off in instalments.

Although the actual cost to purchase the house plots was low, this purchase redirected funds that households could have used to restart their livelihoods. This is particularly evident given the experience of how one woman restarted her business. While living in the barracks following the tsunami Maisarah made cakes/snacks to keep busy. She preferred to be occupied rather than do nothing: '[I] make cakes, cook cakes in the barracks. Without something to do, just sitting, I have a headache'. From this activity she earned IDR 300,000 (equivalent to around AUD$30.00 at the time of interview). With this money she bought *kacan panjang* green beans; she grew the beans and then sold them. She gave half the profits to her children (she has 11 adult children) and the other half she gave to her husband to buy fish so that she can dry it to make salted fish. Slowly her money increased: 'from a little we start again to find money, when someone buys from us we add a little more money'. Maisarah talked of how from the basis of 300,000Rp she can start again. She said that from that initial sum she can afford to pay for four of her children to be married. Maisarah instructed me to write down her story, it was important for her to say that even though she looked for aid she did not find it, so she made her business herself. Maisarah received a house from World Vision but she gave it to one of her children and instead she and her husband built a wooden shop-house on the main road through the village.

Another female participant also restarted her livelihood by selling rice when she returned to the village. From this beginning she was able to open a small store, over

[46] This may have been because their original plot was temporarily inundated with sea water or because there was no buyer for their original plot. Had they sold their original plot, this may have been for less money than it was worth due to the changed economy following the tsunami.

time she developed the store until it was a full masonry construction at the time of interview. Following the tsunami, it was not possible to borrow money from a wealthy relative or a wealthy member of the community – because of the scale of the disaster everyone was restarting their livelihoods. For example M. Razi stated: 'before there were rich people, after the tsunami they were the same as us'. Given the inhabitants limited resources following the tsunami, buying the house plots from the previous owners meant redirecting vital resources which could have been used for restarting livelihoods or businesses[47].

Furthermore, although the $300 payment compensated landowners for the loss of their land, it did not necessarily compensate those who had farmed the land. According to traditional rural land practices in Aceh land owners would lease their land long-term to farmers in exchange for a share of the yield. The decision to build on that land affected not only the landowners but those who had farmed the land as well. In Lhok Seudeu, the Oxfam houses were built on land where fruit trees were grown. Although there were four owners of the land, the fruit trees on that land were owned individually by many families in the village. Rahmat for example said of the fruit trees in Lhok Seudeu 'I know [whose is whose] I was born here so I know who owns which [tree]'. In Lhok Seudeu, Oxfam divided 5,000m^2 into a grid like pattern for 50 houses to be built (Oxfam 2006a).

The houses built by World Vision were on land that was rice fields prior to the tsunami. The decision to build houses on this land has had a significant impact on the farmers in the village because there is not an alternative location for more rice fields. Whereas more fruit trees could potentially be planted in the hills surrounding Lhok Seudeu (if the households can afford to buy the seeds and have space to grow saplings), there is no alternative land for rice fields. One participant, for example, explained the difficulties that both fishers and farmers experienced post-tsunami:

> Compared to in the past when people had many children, now 2-3 is enough, we have to think about our life and what is important. Because our economy is not clear. Yes before it was different, there were still rice fields, if want to

[47] Negotiations between the village and the local government are ongoing as the village disputes why they were asked to pay for the land when other relocated villages were not.

> fish there were fishing tools. If we want to farm [on flat land] the land isn't there anymore, the rice fields aren't there anymore. For our parents in the past, if they were farmers they work in the rice fields [and] after one year [they] already have enough... But now it is not like that any more, there are still rice fields but not as good as before, much of it dies...It is much harder to have [a] livelihood now, if we look at our parents they worked hard but were relaxed. Now it is different.

The loss of arable farming land due to the World Vision houses has led some families to clear the land on the hills behind the houses to farm corn. Corn is a cheap crop that grows quickly, in contrast to fruit trees which take 5 years to grow and cost a lot to purchase either as seeds or seedlings. However, corn has shallow roots and those living under the newly cleared hills said they fear of landslides because they can see the soil and rocks sliding down and have had rocks falling on their houses. When weighing the benefits of receiving a house, Asiah notes that there have been positives and negatives. Asiah said although she is thankful to have a World Vision house: 'when it rains we often [have] flooding, [and there is] that landslide there behind [our house]'. A combination of factors has now created an immediate threat of landslide. Firstly the geology in the village is such that there is a high risk of landslides; in two locations in the village landslides have blocked the main road. Secondly, future earthquakes or explosions to clear the landslide from the road could increase the risk of other landslides. Thirdly, people have removed trees with strong roots which held the soil on the hill behind the World Vision post-disaster houses. They removed trees in order to plant corn crops which have shallow roots. Although those living under the hills talked about their fear of landslides they also said they did not discuss this issue with those who farm the hills because they believed that those people have no other alternative livelihood options.

7.9 Impacts of the Plot Allocation Lottery

Earlier I explained that both pre and post-tsunami the village of Layeun was divided into four *dusun*. While the households that lived in the *dusun* of Lhok Seudeu pre-tsunami remain living in Lhok Seudeu, households from the other three *dusun* do not necessarily still live close by other people from their original *dusun*. Both Oxfam and World Vision employed a lottery system to allocate house plots. The lottery system

was intended to be equitable, because those people allocated houses closest to the main road were in a favourable position for running a store, café, restaurant, mechanics or selling petrol. In Lhok Seudeu houses backing on to the main road have built stores or cafes (Figure 7.16).

Figure 7.16 Stores or cafes have been built onto houses backing onto the main road through Lhok Seudeu.

Figure 7.17 The inside of a store in Layeun One.

Figure 7.18 A cafe attached to the front of a house in Layeun Three.

Some of those living in houses built by World Vision were also given wooden stores at the front of their houses (Figure 7.17 and 18). These were donated by another INGO and it was not clear why some received the stores and others did not, nor why households in Lhok Seudeu did not receive the stores.

The random allocation of houses has meant that family groups are no longer clustered together and this has a significant impact on women with small children. Prior to the tsunami, kin relations determined where people lived and on whose land. In the pre-tsunami village, extended families were often clustered together because adult children would build their house on land owned by their parents. This clustering meant that when a woman wanted to go to work, to the farm or to the store she could call out to a family member to watch her children until she returned. One male participant explained how the random allocation of houses has affected women's lives:

> Women's work has changed now because before they work together while their younger siblings look after the house, but now they are on their own, separated. In the past the women here dry fish but not for themselves, they work for someone. They work for that person and there were younger siblings to look after the house. Now they are on their own, after the tsunami, [they] make it themselves, by themselves.

Another participant, Qamariyah, said that before the tsunami she had farming work growing chillies, but since the tsunami she had stopped work because she was busy looking after her children. Qamariyah explained: 'we already have families already

have children, already busy'. Another participant, Putri agreed that most women are '*ibu rumah tangga'* meaning house wives.

These changes are not simply the result of the random allocation of houses, but also because the houses accommodate single families (parents and their children) rather than being inter-generational and accommodating extended families. The disaster itself has also disrupted living patterns as it led to changes in family structures. For example, in many cases following a disaster there is a spike in marriages and in the number of children born. There is also a rise in new spouses moving to a village because couples met in barracks or emergency camps. This phenomenon is reflected in the number of families registered in the village, while almost 200 people were lost to the tsunami, according to the village secretary, Syarifuddin, the number of family groups (registered as *Kartu Keluarga*) has risen by between 20-40. Thus in the post-disaster housing there are more new spouses than there would be under 'normal' circumstances.

7.10 Impacts of Permanent Houses

When discussing aid two of the leaders in the village talk about 'aid funding' or 'aid money'; however the majority of participants use the term '*rumah bantuan*' (aid house). Many participants expressed their sense of luck (*beruntung*) or thankfulness for the gift of houses. They used the term *bersyukur* meaning 'give thanks to God'. The distinction between aid funding and aid housing is important because the former suggests that money was donated for people to build houses, whereas the later suggests that houses were donated to the inhabitants.

It was often only possible to constructively discuss the post-disaster houses with participants by asking them about the houses in comparison to their pre-tsunami housing experiences, or in relation to their day to day activities. If I asked a participant about their house, I was often told '*baik'* it is good. This did not necessarily reflect the construction quality of the houses or their suitability for daily life, but rather arose from their feelings of thankfulness that these houses had been given to them. During the interview period, no participant directly criticised their post-disaster house. No participant (directly or indirectly) criticised the INGO who provided that house because they were grateful to receive it. For example, M. Nasir

explained that they receive what was available, that having any house is preferable to not having a house at all.

For Mahfuddin, he and his community have been given far more than they ever expected: 'Yes we get the house, a house with a yard like this. Yes that is what we got and we thank God for that'. He explained the situation as follows:

> Indeed at that time we were being helped, so *terserah*, what is important is that we receive aid ... We didn't ask for lots, we already thank God for this, we are happy. At the time of the tsunami we imagine [that] …we will return to the village, look for wood ourselves, fence the land, ... farming, that is what we understand. As it turned out, the process with this disaster [was that] the world also help [us] quickly. Our thoughts are like that, not really anticipating being given a house, all of us are shocked. [We] feel ashamed at that time [that] we request permanent houses, feel ashamed we ask [for that], because we who live here before the tsunami some have permanent [houses and] some did not, indeed some [just live in] a small hut. But when [we were] helped [the houses were] already permanent… yes we thank God.

When this participant talks about the shame he felt for requesting a permanent house, he is not talking literally about his own request for a permanent house, but because the local authority overseeing the reconstruction in Aceh (the BRR) set minimum standard for aid housing to be permanent. He explained that because they were receiving more than some people had previously owned he did not feel comfortable asking about what they would receive.

Where negative comments were made, these were about the Indonesian (usually from Medan or Aceh) contractors who built the houses, or about a decision attributed to the Acehnese or Indonesian Government. These comments all related to what was seen as the corruption of funds through the purchase of poor quality materials by contractors.

When discussing their houses they used the English terms 'permanent' or 'semi-permanent' to distinguish between a full masonry house (permanent house) and a house where the floor and lower part of the wall is masonry and the upper wall is a light weight material (semi-permanent). Wooden houses were the norm in rural

Aceh, however there were examples of masonry houses in the case study village prior to the tsunami. Post-tsunami, sourcing wood for houses (as well as fencing, mending things, building benches and other seating, building stalls, cafes and stores, building shelters on farming land, building boats) is more difficult since the Government ban on logging in Aceh (see Chapter 5). For example, one participant argued that masonry houses are viewed by the community as a contemporary style of housing:

> [The post-disaster houses are] following the fashion of this age. People are like this, evolved, [to be of] this age, right, to be more advanced. In the past our parents never thought about houses like that [indicating post-disaster house], permanent houses, bricks like that. Always wooden houses. But now people already choose this design, [they were] not choosing comfort, ya.
>
> Later people here won't want to build wooden houses anymore. [They] want to build permanent houses like that [pointing to a post-disaster house]. [If they] have the money ... In the past, sometimes it was easier for people to go for wood. If it is easier it is more comfortable to build with wood. But since the year … 1998 wooden houses aren't being built anymore.

Although this participant viewed the building materials of the permanent house as uncomfortable, for other participants it symbolised durability. The durability of their materials freed the participants time as they are less busy maintaining and repairing their houses than they had been prior to the tsunami. As one interviewee, Baihaqqi, explained:

> Before the tsunami we had a house but it wasn't permanent like this one, still semi-permanent, it was all wood, that was the only difference … it was comfortable, but it is more comfortable now…not having to fix problems with the walls, they are very satisfactory. The roof is enough … [we are] not busy with the house now. Before [the tsunami] sometimes the roof was sago palm, so every two months [we] repair it, just busy like that. So for comfort, it is comfortable [now because there are] no more issues [with repairing the house].

Several participants, including this one, noted that this area had strong winds. This was his reason for being concerned with the quality of roofing materials, he was more concerned about the strong wind doing damage to his house than the threat of a future tsunami. Another participant also appreciated that the brick masonry walls did not have to be maintained, she compared the permanent house to the semi-permanent houses initially built by Oxfam[48], Jamaliah;

> If [we] compare [the semi-permanent house with the permanent house then] this one is more comfortable, with a semi-permanent house over a long time the wood has to be change, after that the roofing iron was ordinary, not good quality like this [in the permanent house].

Even when a participant said that he was worried about the quality of the construction, he still valued the permanence of the house; Nasruddin, for example, is worried about the cement house collapsing in an earthquake, yet he still refers to the brick cement house as 'permanent'. Permanency in this sense refers to the type of building materials rather than the strength of the building. The term 'permanent housing' refers to a brick-concrete hybrid; the foundations, floor, columns and beams are concrete, with brick walls covered inside and out with a concrete render. However, in this locality there is no guarantee that the quality, thickness, strength and ingredients of the cement are standardised.

The house also gave some participants a sense of durability because it cannot be moved. One participant, Syukriati, described how important that was for her after firstly evacuating from the village, then living in emergency tents, then in barracks before being able to move into a new house. She said that it is good living in the aid houses because:

> My meaning is [I] already have a place to live which is stable, now [I] don't have to move here and there anymore, that house is our place to settle. Before we get a house moving, moving after the tsunami, living in tents, in barracks. If there is already a house, [there is] already a place to settle which is stable.

[48] See Chapter 5. Oxfam built houses in two stages, first semi-permanent houses and second permanent houses.

Before the tsunami she and her husband had lived with her parents. She said that they wanted and planned to live on their own but had not had enough money to do that. She likes that she and her husband can now rent their own house 'It is good to live on our own, we are independent'.

Being able to own their own house is an indication for the couple and their community that they are independent. Another participant, Jamaliah, also pointed to the need for independence: 'if we have already settled down it is better to have our own house, if we live in our parents' house we haven't flourished'. Jamaliah used the term *berumah tangga* which means to have a household or to be settled down. It is interesting to note that these words literally mean to have a house on stilts. Similarly *ibu rumah tangga* meaning housewife, is also literally the woman of the house with stilts. *Rumah* means house and *tangga* means the ladder or steps used to climb up to the house on stilts. Therefore, owning a house or having a household has symbolism both at an individual level for the independence of the people but also at the socio-cultural and family level as these terms hark back to their heritage.

Similarly young couples given a house are also given independence, and a large part of their future concern is removed. For example in Layeun one young man and his brother live alone in a post-disaster house. Their mother passed away in the tsunami and their father has remarried. Their father, step-mother and siblings live in one post-disaster house, while the two brothers live in their own post-disaster house. This independence increases their marriage prospects; it also allows them less financial concern as they do not have to save money in preparation for a house. A common phrase in Acehnese '*hana peng, hana inoeng*' meaning 'no money, no woman' has practical implications in that without money a man cannot marry. Money is needed to both for the wedding and the dowry, the dowry is paid by the male side to the bride. This dowry is usually in the form of gold jewellery. The bride spends some of the money to furnish their house, particularly the bedroom and kitchen. She saves the rest of the money for their future needs. A house is not necessary at the time of marriage, as often the newly married couple will live with the bride's family for a year or until their first child is born, before moving to their own house. That house may start small as a *gubuk* (hut) and be incrementally built as and when the couple have funds to add to the house.

A female child who received a post-disaster house is also at an advantage compared with those who did not. Another participant, Putri, whose parents passed away in the tsunami lives with her older sister and brother-in-law. She received a post-disaster house but wishes to keep it new for when she marries and moves into the house. She does not want to live there alone and neither does she want to rent it out: 'It's not nice to live alone, later if there was a problem what would I do?' Putri asks. If Putri had an older unmarried sister then she would have inherited the house of her parents and Putri would not have received a house.

For some participants, their ownership of a post-tsunami house was a symbol that they were accepted as members of the community. This was the case for M. Fadhil, his family had been part of the transmigration program, a national government scheme designed to bring farming families from Java to other parts of Indonesia. Their migration from Java to Aceh coincided with the period of ongoing conflict in Aceh. Due to the conflict between the Indonesian Military and Acehnese freedom fighters it was dangerous and insecure for the Javanese transmigrants in Aceh. This participant's family moved five times in search of land that they could farm and a safe place to live. Before the tsunami occurred the family were given a long term lease of farming land by a resident of the village. They were able to rent the land by giving a portion of their yield to the land owner. After the tsunami occurred this participant, his parents and one brother all received a post-disaster house. For M. Fadhil having a post-disaster house has provided security and stability. Owning a house could contribute to ontological security, by providing the inhabitants with a physical symbol of their membership of the community and ownership of their land.

However, those who did not receive a house are unfavourably placed now, unable to afford to buy a post-disaster house, to build one equivalent to it or another type. Whereas a *gubuk* (hut) was the norm pre-tsunami the current norm is for a permanent post-disaster house. While those without houses continue to rely on their parents or extended family. These people either live with family, rent or stay in community owned accommodation (such as *Musholla*) and return to the family house for washing and eating. Housing norms have been so disrupted by the post-disaster housing that those without a house have little possibility of getting one. They are unable to build their own masonry house (permanent house). Furthermore, what

would have been adequate pre-tsunami is now considered ‘temporary’ thus reducing their claim to membership of the community. Thus through post-disaster housing the understanding of ‘adequacy’ has been redefined and has created disparity within the village.

For those without a house such as Bustami, the lack of a post-disaster house signifies a vast chasm between what others have and what they themselves are able to have. Following the tsunami, Bustami took his wife and children to stay with his mother-in-law: ‘It wasn’t possible I live here, there was no barracks to live in, my children are still small, so I live there [as in his wife’s village]’. Bustami said ‘about the question of [a] house, I am Acehnese, I am [one of] the original people of this village, I am not a migrant. My grandfather, my grandmother, were also original people here’. Yet Bustami did not receive an aid house, he said the reason given by the village leader is because he was too late returning to the village. The allocation of houses was completed before he returned. This is difficult for Bustami because he believes his family arrived in the village before the family of the village leader.

He does not have the opportunity to build his own house in the style of a post-disaster house, he could not afford to build one, he cannot afford to rent one, because of the moratorium on forestry he cannot build another form of timber house, instead he resides in a *gubuk*, from found materials or those donated by other people in the community. Whereas this form of housing was expected pre and immediately post-tsunami, because of the type of post-disaster housing that was built, this type of shelter is very different to the post-disaster houses. Yet Bustami has remained living in the village because it is possible for him to work, he sells salted fish and goes fishing.

If people do not have a post-disaster house their options are to rent a post-disaster house if a house owner has moved out of the village or to construct a temporary shelter. Only households with a successful business, such as a store or cafe are able to afford to build a house (either in timber or brick-concrete). The lack of alternative housing options has the potential to create tensions within households, families and communities. For example, while traditionally the youngest child would remain living in their parents’ house and inherit the house on their passing, if there is no alternative housing tensions may arise as to who inherits the post-disaster housing.

The situation is further complicated in mixed families, where couples have remarried following the tsunami, it is difficult to accommodate their children from their previous marriage within the one post-disaster house.

The question of who retains ownership in the case of divorce is also difficult because of the lack of alternative housing. Although couples hold joint title of the post-disaster house in one example in the case study the village leader decided that the husband would retain ownership of the post-disaster house because he is originally from the village, whereas the wife is from elsewhere. At the time of field research, she remained in the village however she was living in a *gubuk* (hut) at a distance from the post-disaster houses because of the lack of space. She did not want to leave the village and return to her original place because she said that the village was now home for her. For this divorcing couple the issue of who retains ownership of the post-disaster house is tied to their identity as members of the community because of the lack of alternative housing. At the time of field research there was a vast gap between those that have and those without a house. The post-tsunami houses have created a disruption in housing norms because the housing process did not address existing vulnerabilities for poor people in the community.

For some residents the houses provide a sense of stability, while for others they have disrupted housing relations. The disruption exists in that those whose families have resided in the village for many generations now have only as much claim to the place as any others who also received a post-disaster house, heritage in place is no longer expressed through the heritage of a family house.

7.11 Relocation and Tsunami Risk

The core motivation for INGOs to relocate housing away from the sea was to reduce the inhabitants risk to future tsunamis. Certainly for those people at home when a tsunami occurs they are now located much closer to the hills. However, local government policy for rebuilding did state that relocating houses further inland, on its own, was not sufficient to reduce people's tsunami risk. For although houses have been rebuilt further inland many livelihoods remain on the shoreline. For example, those involved in fisheries, boat building, drying salted fish for sale, or other associated activities, as well as stores and cafes, remain on the shoreline.

Furthermore, the school was initially located in the pre-tsunami location close to the shore and far from the houses. In the event of a tsunami occurring, this situation would be confusing and potentially more dangerous as parents attempt to reach their children at the school. A second (replacement) school has now been built within the new village location by the Indonesian Government. However, villagers intend to keep using the initial school buildings, one proposed use is for vocational fisheries training.

The BRR required housing INGOs to ensure there was an easily accessible path from the houses to higher ground. No path has been built. People coming from the shore must first circle around the fishponds and rice fields before they reach higher ground (Figure 7.19). Several participants commented on the need for an easier escape route. As Ali noted in his interview, the pre-tsunami village was between the shoreline and fish ponds and some people passed away because they had to circle round the fish ponds on their way to higher ground. Asiah felt that more people could have survived the tsunami had they had a direct route to the mountains: 'If (they were) going to the mountain (they) have to circle first around the fish ponds therefore lots of people did not survive'. No pathways between the fishponds have been built to create a more direct escape route.

Figure 7.19 The path to higher ground from the pre-tsunami village site.

Once people within the village reach the hills the climbing is somewhat challenging. Since the tsunami more people are farming on the hills than previously. This is because some farming land was repurposed for the houses to be built on it and those people lost their livelihoods, therefore their alternative is to use the hills surrounding the village. These farm plots are located on the edge of the jungle, so there are many animals such as forest pigs and monkeys that want to eat the crops. People in the village build fences from trees (a particular type or tree is commonly grown close together to create a fence, the lower branches are cut off to grow a tall straight fence). Figure 7.20 shows participants climbing over the fences to reach their farming land on the hills.

Figure 7.20 Heading for higher ground, participants travel up the hill to reach their farm.

Another participant, M. Razi, believed that World Vision had promised to build steps or a path up the hills so that it was easier for people to reach higher ground: 'Yes people going to the mountains make their own path, there is no street to the mountain, so that is still one thing missing in our place … but before that is also something that had been promised but until now it hasn't happened too'. Therefore, although the housing has been moved inland in an effort to reduce tsunami risk, everyday livelihood activities still take place on the shoreline, and evacuation pathways to higher ground remain difficult. In addition to the risk of tsunami and earthquakes, participants have ongoing risk of flooding which has happened on a yearly basis, both before and after the tsunami due to the lack of drainage. Participants have dug ditches behind their houses to attempt to channel the water (although some say this was initially promised by the INGO).

7.12 Conclusion

Although participants' were grateful to receive a house this chapter has described key transformations of the village landscape through the post-disaster housing process. These transformations include changes in settlement patterns from rural to suburban, from one village to two distinct settlements, and relocating one group of houses away from the sea to below the hills. These transformations had consequences in disrupting livelihoods of women and farmers, constraining economic opportunities, disrupting living patterns and creating disparity between those who have a house and those who do not.

For the inhabitants of this village, houses do not exist in isolation from their everyday livelihood challenges. The INGOs' decision to relocate post-disaster housing onto agricultural land has had significant implications for the lives and livelihoods of the farmers who used the land. The fact that those allocated housing paid the previous owners for the land is only of limited value in terms of compensation, because the land owners may not have been the people farming the land. The relocation of houses onto smaller plots of land has also challenged household sources of income and nutrition, by only providing a limited space for gardens and animals to be kept. The key aim of relocation was to reduce the inhabitants' risk of tsunamis, yet relocation of housing alone is insufficient without buffer zones and escape routes. Furthermore, relocation has created new risks, such

as the risk of landslide and economic risks associated with loss of household livelihood options. In the following chapter I move from the village scale to the scale of individual houses. I consider how participants inhabit post-disaster houses and in what ways those houses support or constrain their ability to re-establish their desired patterns of everyday life.

8. Disruption and Adaptation: Everyday Life in Post-Disaster Housing

8.1 Introduction

Prior to the tsunami, houses in the case study were built by members of the community. The multitude of minute decisions involved in designing and building those houses, and the systems of land tenure and ownership on which these decisions were based, were made by the inhabitants themselves. In contrast, the post-disaster houses were planned, designed, and built by outside experts with limited input from those who would live in them. The INGOs responsible for post-disaster houses assumed that if participants' housing was disrupted by the tsunami, then receiving a new house would provide continuity for the inhabitants (Chapter 2). As shown in the previous two chapters, this well-intended assumption had the effect of blinding these organisations to the many ways in which local people were actively responding to the challenges created by the tsunami by drawing upon their strong sense of identity and place. The previous chapter established that post-disaster houses challenged their previous arrangements of land tenure, landscape management and livelihoods.

In this chapter, I explore the practices of everyday life in post-disaster housing, drawing comparisons with pre-tsunami life. I examine whether, and to what extent, post-disaster houses allowed participants to express their sense of personal and collective identity. In this chapter I move to consider questions of continuity and disruption in the living practices within and around the houses. I pay attention to the forms of adaptation taking place in participant's practices and in the physical form of housing. In this chapter I apply a social constructionist approach to understanding the relations between people and houses.

8.2 Entrances: Front Yards and Terraces

The post-disaster houses have been built square to the road, allowing for a small front and rear yard. The sizes of these differ between the two housing projects and to a smaller extent within the housing projects. The uniform design of the houses and their placement has created a visual landscape that is very different from that before

the tsunami, and has changed the practices of how people move around and interact within the village.

The front yard is a semi-public place. The most important area of the front yard is the terrace (Figure 8.1). Terraces are a gathering space for members of the household, friends and guests. People gather on terraces in the mid-morning, afternoon and evenings. Many people returning from work will sit on the front terrace in the late afternoon. Sometimes there is a wooden bench for people to sit, otherwise they may sit on the floor or low plastic chairs (*duduk santai*) are brought out for guests to sit on. Some households have kiosks, stores or cafes beside or, given the limited space, instead of their terrace.

Terraces provide an intermediate space between the public street and the private internal rooms of the house. People sitting outside the front of the house were able to interact with those passing by and chat with their neighbours. Some participants said that they liked being able to call out from house to another, and to be able to see what was happening in the street. The terrace is also a cool place to sit, with ventilation and shade. By providing shade the terrace is both cool itself and creates cooling ventilation for the house.

The terrace is an important visual, physical and temporal space, as it allows the household to differentiate between different guests and occasions. It is important both for everyday gatherings and for formal gatherings. When there is only one internal social space, then the veranda or terrace can act as the male gathering area and the one internal room can act as the female gathering area on formal occasions when gender differentiation is practiced. If a household has constructed a large kitchen/family area at the back of the post-disaster house, the internal room can then be used as a formal guest space. Thus the house spaces are not simply important for their own characteristics but for how they relate to other areas.

Figure 8.1 Examples of terraces built at the front of the post-disaster houses.

Some households have extended their terrace to provide a larger space or a more decorative entrance (Figure 8.1). The apex of the terrace roof is often decorated to reflect the decorative entrances of traditional Acehnese houses.

Within the front yards trees also provide shade and a shaded space for people to gather and relax. Figure 8.2 shows a bench built beneath a tree to provide a place to relax in front of a post-disaster house.

Figure 8.2 A bench built under the tree to provide a shady place to relax.

Ali provides an example of the importance of a mango tree near his pre-tsunami house. In this house Ali and his two younger siblings and one older sibling used to sleep in one room, and his parents in another room. In this house they also had two living spaces (*ruang*), one at the front and one in the middle of the house. The front living space was used to meet guests and to gather at night to watch TV. The second living space in the middle of the house had no furniture. This was a family room for relaxing in the afternoon and where the children used to gather after school to do their homework. When they wanted to play, Ali and his younger siblings would play outside. Ali explained that in their yard there were lots of trees, yet he only draws one tree. This mango tree was important because it was where his family and friends used to gather, especially when it was raining. However, the limited space in front of the post-disaster houses does not allow for large trees to be planted, and secondly not enough time has passed for those trees to become established since the houses were completed.

Around the village people have built wooden platforms known as *balai*. Although they are built on (privately) owned land they are shared social spaces for members of

the community to gather. They act as everyday living spaces within the village. Similarly *Musholla* are wooden platforms, more enclosed than a *balai.* Their name is derived from their religious function, as a place for people to study the Koran. *Musholla* are shared by members of the community, and provide important extensions to the house itself, particularly for young people to gather and young men to sleep at night. A *kedai* is a wooden shelter, similar to a *balai*, built as social and livelihood places. The *kedai* are built as stalls to sell salted fish or to provide a place to sit next to a *warung* café. The *kedai*, *balai*, terrace and café are all simple structures which serve vital purpose as both livelihood and social spaces in the community. Importantly these structures are used by both genders and all generations.

8.3 Differentiating Spaces Inside the House

In Indonesian, two words differentiate spaces inside a house, *ruang* and *kamar*. At first glance both could be translated to mean the English word 'room'. The *kamar mandi* (bath room or *kamar kecil* - literally small room) and *kamar tidur* (sleeping room) are enclosed private spaces. They differ from *ruang*, which are more open, social spaces. A *ruang* can function as either a formal guest space or a relaxed family gathering space. If there is only one *ruang* it is used differently at different times.

Kamar and *ruang* are differentiated in several key ways. In pre-tsunami houses different floor levels were key to distinguishing private and social spaces. The timber planks of the floor were separated to both allow cool air to be drawn up into the house and to allow dirt and dust to be swept down to the underneath of the house. Sweeping is a common, daily activity for the household. Both the inside of the house and the yard areas are swept daily. Sweeping takes the dirt down from the clean areas to ground level. In pre-tsunami houses, steps or a ladder either at the front, side and rear of the house would lead up into the house. At the top of the stairs was a terrace or *ruang* (living space), then step/s would lead up to the *kamar tidur* (sleeping rooms), on the other side of the *kamar tidur* step/s would lead down to either a *ruang keluarga* (family room) or the kitchen and bathroom. The sleeping rooms were the highest rooms in the house, with decorative panelling, screens or curtains separating them from the semi-public areas of the house.

In post-disaster houses, areas for resting, social gathering and prayer continue to be kept clean through creating a step from the ground level into the house. If households can afford tiled floors then a step is created from the *ruang* into the *kamar tidur*. Similarly there may be a step between the *ruang* and the kitchen or family room at the back of the house. Figure 8.3 shows how this distinction has been created by raising the floor level of the kitchen, so that from the living space people step down into the corridor passing the bathroom and then up again to the kitchen area. Higher floor areas also protect internal spaces from the danger of flooding which occurs frequently in these houses.

Figure 8.3 The step up from the corridor to the kitchen space built by participants at the back of their post-disaster house.

In addition to sweeping, floors are also mopped either daily or several times a week (vacuum cleaners are not present). Beds and rugs are also swept clean. When the internal floor is a smooth surface such as wood, linoleum, good quality concrete or tiles, the floor is easiest to sweep clean. However, when the floor is dirt or poor quality, uneven or cracked concrete, it is difficult to rid it of dust and dirt. Floors are very important in this community as people lie directly on the floor to sleep or rest, people set out food and drinks on the floor, this is where people sit to eat, socialise, watch TV and where children play. The quality or smoothness of the flooring and the

ease of keeping it clean are important, not only for the practical task of keeping them clean but for their appearance to guests who will sit on the floor.

When participants can afford to, they pay for ceramic floor tiles. Those without tiles aspired to have tiles in their house. The first areas of the house to be tiled were the terrace and guest room. Participants compared their houses with other post-disaster houses outside the case study based on whether or not they had provided ceramic tiles. When participants are unable to afford tiles, they choose to put linoleum on their floors (Figure 8.4). This covering was chosen for comfort, visual appeal and as insulation when sitting on the floor. The poor quality of some of the concrete floors in the post-disaster houses increased participants' desire for some kind of floor covering to lessen the amount of dust and make it easier to keep clean. However, many participants kept their motorbike inside the *ruang* at night so that it was not stolen, and unfortunately bringing the motor bike in and out of the house would tear the lino. Many households had a large rug for special occasions, depending on the household this was either a woollen carpet rug or a more traditional woven rattan rug. On a special occasion the rug is put in the guest room for the guests to sit on so that they are not sitting directly on the concrete floor.

Figure 8.4 Examples of linoleum covering the participants' floors.

8.4 Internal Living Spaces

A living space is often referred to as *ruang tamu* (guest room) or *ruang keluarga* (family room). In post-disaster houses one *ruang* functions as both guest and family spaces. There is minimal furniture in the *ruang*, often only a cabinet housing a TV or music system (Figure 8.5). This allows many visitors to sit around the walls of the space on a formal occasion. Both power points and framed photographs are high up on the walls of the *ruang* reflecting the frequency of flooding in these houses.

Figure 8.5 A participant's photograph of their household and a neighbour sitting in their ruang at night. Photo by participants.

The mixed use of the *ruang* is indicated in Figures 8.6 and 8.7. These photographs were taken by participants to show different aspects of their everyday life in the post-disaster house. Figures 8.6 and 8.7 were taken by one household, and show how the one space contains formal furniture for guests as well as being a relaxed area where the children play.

Figure 8.6 The participant's children also play in the ruang. Photos by participants.

Figure 8.7 The participant's formal living space. Photo by participants.

The *ruang* were often multi-functional. One space may be used for mending fishing nets, for resting and for children to play either simultaneously or at different times of the day. Depending on who lived in the house spatial priorities shifted. For example, a single man felt comfortable sleeping in the main living area, whereas a married female felt uncomfortable sleeping there, and an older female felt more comfortable sleeping in the kitchen. The relative public or private spaces changed during the day and depending on who was present.

When there is more than one social space then the functions of these spaces change. If the household adapted the post-disaster house by building a large room at the back of the house, then that space may function as a relaxing space for the family as well as a cooking space. Children may play or do their homework here, or there may be a TV in this space. Alternatively if a front porch has been built the family may gather on the porch. On formal occasions, when many people visit the house the men and women often sit separately. When there is a large terrace the male guests will sit on this terrace and the female guests will gather in the internal *ruang*. When there is no terrace or only a small terrace, but a large kitchen space has been built, then male guests will sit in the *ruang* and female guests will sit in the kitchen space. If there is neither a terrace nor a large kitchen space, then both genders will sit in the *ruang*, however the males will usually sit to the front of the *ruang* and the women to the

back. I have not heard of a formal occasion when the women sit on the terrace and the men sit inside. On a large formal occasion such as a wedding, the street may be closed, a tent erected over the street and chairs put in the street for guests to sit on. On such a large occasion men and women would sit together. If the occasion was a wedding, the front *ruang* would be heavily decorated with material covering the ceiling and walls of the *ruang* where the bride and groom sit to welcome guests. At a funeral the males will tend to gather on the terrace, and the women in the front *ruang*, the body of the deceased may be laid out in the *ruang* with immediate family sitting around the body for family and friends to pay their respects.

8.5 Sleeping Practices

Kamar tidur (sleeping rooms) are private, internal spaces. In the post-disaster houses there are two *kamar tidur,* each 3 square metres. *Kama éh* is the Acehnese for sleeping room, *kamar tidur* in Indonesian. I have chosen to translate this as sleeping rather than bedroom because both the Indonesian and Acehnese words translate as sleep not bed. Furthermore some participants said that they slept in rooms which did not have a bed such as the kitchen or *ruang*.

Usually the doors to these rooms would be kept closed, or often a decorative curtain would have been hung over the doorways to obscure the line of sight but allow ventilation into the rooms. When interviewing participants it was very rare for them to offer to show their *kamar tidur* or that the doorways would be open. When 5 households were given disposable cameras to photograph their everyday lives, only one household took a photograph inside the *kamar tidur*. It is rare for non-family guests to enter the bedrooms. One exception exists if it is time for prayer, and there is no other space a guest may be offered a bedroom space to pray in, but it is more likely that the family leaves the *ruang* and the guest prays there or the guest goes to pray at the Mosque.

Participants frequently noted that members of the household slept in another area of the house and not in the *kamar tidur*. This practice was either because the *kamar tidur* was already full of people or because they were more comfortable sleeping in another place in the house due to the heat. Female children were most likely to sleep in the *kamar tidur*. It was common for children and parents to share a sleeping space

while children were young, and later for older same sex children to share. Older male children or unmarried men were most likely to sleep outside the *kamar tidur*.

Sleeping spaces are gendered spaces. Sleeping spaces are organised around the concept of the married couple, with bedrooms being occupied by married couples and their young children. Teenage children or unmarried adults are separated according to gender, with young men most often sleeping outside the house.

Figure 8.8 Many people rest in the living space, this family moved more permanent bedding into the ruang. Photograph by participants.

Figure 8.8 is one participant's photograph of their *ruang* living space with a bed set up. Participants said that it was common for members of the household to rest, nap or sleep in the *ruang* particularly if there was a TV in this space. In the case of the participant's photograph a member of the household was ill and sleeping in the *ruang* at the time, so the bed may only have been set up for the duration of the illness. In other households mattresses were stored during the day time in the *kamar tidur* and brought into the *ruang* at night. Some participants or their family members also slept in the *dapur* (kitchen) they had built at the back of the post-disaster house. Both the *ruang* and the *dapur* were said to be slept in because they were cooler at night as they were larger spaces allowing for greater air circulation than the *kamar tidur*. Being a small enclosed space with only one window the *kamar tidur* were said to be hot at night.

It was common practice for unmarried males to sleep outside the house. They either stayed in a friend's house or in a *musholla*. A *musholla* is a prayer hall, usually similar to a large *balai*. It is a communal space where young men gather in the evenings, particularly when a soccer match will be shown on TV. Jufrijal for example has eight children. His two older children are male. He said that they return to the house to eat and wash during the day, at other times they are either working or looking for work, or at the coffee shop. At night he said they stay with friends. Another example is Ali's family. While Ali's parents and younger siblings sleep in their café over night, Ali and his twin brother sleep in the post-disaster house. The aid house was given to his father's, but Ali said that his father does not have a plan to live there. Ali, his brother and their friends sleep in the two rooms, and they keep their motorbikes in the *ruang* to keep them safe overnight. At the time of interview, Ali was in his final year of high school. He expects that if or when he or his brother marries, they will both stay in the post-disaster house with each couple having their own room.

Because the case study is in a fishing area, it is common for young unmarried men to stay outside the house because many male relatives arrive looking for fishing work. In the pre-disaster village a large *musholla* at the port provided a sleeping space for these young men who may have stayed there only during their working days, returning home to their family on weekends or days off. One participant explained that she and her mother lived in a *rumah panggung* (house on stilts) prior to the tsunami and that the upstairs space had been used for young unmarried fishers to stay in during the fishing season. She and her mother had run a cafe/store in the ground floor. Other informal spaces such as *ruang keluarga* (family rooms) or enclosed verandas in the pre-tsunami houses were also used as sleeping spaces for when guests visited or for unmarried males. These spaces were not provided in the post-disaster house so if possible households will extend the house to the front to create a large terrace at the front of the house, or a family room to the back of the house.

8.6 Cooking Practices

Dapur and *dapu* are the Indonesian and Acehnese words for kitchens. *Dapur* can refer to either a room within a house, a room separate from a house or an internal area such as a bench or floor area where cooking is done. The floor plan for the post-

disaster houses shows a rear terrace outside the back door of the house, adjacent to the bathroom. Most households have enclosed the rear outdoor terrace provided by INGOs to create a clean space to sit, prepare food and cook. These enclosures varied between an enclosure made from light weight material, a masonry-wood hybrid or a full masonry construction (Figure 8.9). The light weight materials may be replaced with more durable materials in the future if the household can afford to do so. When participants could afford to they have built a room onto the back of the house as a *dapur* (Figure 8.10). These kitchen spaces varied in size and the quality of construction. Once they had received the aid house, creating an enclosed, internal kitchen was their first priority (Figure 8.11).

Figure 8.9 Examples of light weight materials used to create enclosed kitchen spaces.

Figure 8.10 Examples of masonry kitchens built on the back of the post disaster houses.

Figure 8.11 Examples of the different sizes of kitchens enclosed or added to the back of the post-disaster houses.

I asked participants why they could not use an existing part of the post-disaster house for the *dapur*. Participants said that it was not possible for them to either cook or store kitchen items in the *ruang* in the post-disaster house. The reason was that the kitchen items looked 'messy' and the *ruang* was a shared social/ guest space. For example, Putri said that it was not possible to cook in the internal rooms of the post-disaster house 'because the children would join in and it would be messy, or something might happen' referring to the potential for an accident.

When I asked participants why they were unable to use one of the internal rooms (designated as sleeping rooms) in the post-disaster house for cooking they replied that this was because the rooms are enclosed so there is not enough ventilation or they were used for sleeping. For example, Putri said that 'both of the rooms we are already using, one for myself and one for my older sister, we cannot'. As both Putri and her older sister are married, Putri said that 'it wouldn't be comfortable to sleep in the *ruang* [and cook in the sleeping room] because if my brother-in-law comes home at night and [I] see him it isn't comfortable, maybe there will be a guest later too'.

Only one participant, Asiah, said that she used an existing room in the post-disaster house for cooking. Asiah lived in the house with her baby and her older brother. Her husband was away working in another area because it was not fishing season at the time of the interview. He would return and live in the house during the fishing season. As a fisher he would rarely sleep in the house at night time. He would be on the boat during the night, and return to rest at the house during the day. Asiah used one of the 'sleeping rooms' as her, her baby and husband's sleeping area. Asiah cooked and stored kitchen items in the second sleeping room even though she described it as *sempit* meaning small. She said that her older brother sleeps *diluar* (outside) because she cooks in the room so it has become a kitchen. Her use of the term 'outside' does not indicate outside the house, but rather in the *ruang* or open living space inside the house. Asiah and her older brother did not have sufficient income from her brother's employment unloading the baskets of fish at the wharf (approx AUD$1.50 per day) to adapt their house.

Participants also preferred the kitchen space to be out of the line of sight from the guest space. The spaces may have been connected through an open doorway, but the line of sight was obscured so that guests did not see the kitchen area. There was a clear differentiation between the public area of the house, and the private area of the kitchen. Guests would enter through the front door, where the guest sitting area was, and not pass through the kitchen or visit the kitchen unless they were well-known or close family. The household members would eat either in the kitchen area, in a *warung* or café, or in the large internal room. Usually they would eat sitting on the floor, but occasionally there would be a table and chairs in the kitchen area.

Another participant, M. Nasir said that if he was to make a renovation to his house, he would make a kitchen: 'For Acehnese people usually *rumah dapur* (the kitchen house) is bigger than the *rumah yang ada kamar* (the house with the sleeping rooms)'. It is interesting that M. Nasir calls the kitchen 'a kitchen house' rather than simply a kitchen. He also differentiates it from the rest of the house. This harks back to some pre-tsunami housing in Aceh where the kitchen was separated creating two houses (see Chapter 3). When I ask whether M. Nasir can cook and eat in the *ruang* he said 'for me with a small family [I] can cook there, sometimes, it depends on us, sometimes we also want to eat there too, sometimes we move'. M. Nasir said 'for us it is ok…[but] not so good. Because the house has one roof ... and two doors, front and back. So the smoke goes into the *kamar*'... 'or if we use a stove there is the [smell of] kerosene'. I ask M. Nasir about when there is a special occasion and people cook together: 'for a party we invite many people …so sometimes it is not possible we cook inside'... 'sometimes we cut up a goat or cow for the party, so it has to be outside.' When there is a special occasion, participants said they would gather to cook, sharing kitchen utensils and kitchen space. Special occasions include important dates in the Muslim calendar, as well as weddings or the celebration of a birth held 40 days after the baby is born. On the former occasion many family members will visit each other's houses. At each house a great deal of food will be prepared for these visitors. On the later occasions many people will visit the house, and eat a meal there, at a party to celebrate the birth of a baby there may be anywhere from 50-100 guests, whereas hundreds of guests could attend a wedding. Therefore on such occasions the households needed a lot of floor space to prepare and serve food. I noticed that the owners' names were written on the bottom of glasses so that they could be returned to the correct owner after the occasion.

Luas is an Indonesian word meaning wide or spacious. Participants often used the term *luas* when they were describing their kitchen needs. Spaciousness was important for several reasons, the first being the space required for preparing food. Second, spaciousness meant that multiple activities could occur alongside each other, so different people could be preparing different foods or children could be playing on one side. This was particularly important because of the amount of time taken to prepare some foods. Having a *luas* kitchen also meant that while cooking there was space for children to play away from the cooking activities.

Third, a *luas* space allows for greater ventilation. The need for *luas* spaces applies to internal spaces such as the kitchen, as well as to the distance between houses. Participants found that having houses built close together reduced the ventilation in the house. Only those houses that backed onto the rice fields were able to feel *luas* because the area behind the house was open and un-interrupted (Figure 8.12). One participant, for example, commented that her family enjoyed sitting at the back of the house because of the view and cool breeze in the evenings. This is quite a contrast to the usual practice of sitting on the terrace at the front of the house and socialising in the evenings.

Figure 8.12 A grandmother and granddaughter sift rice sitting in the doorway of the kitchen that looks out over the rice fields. Photograph by participants.

Ventilation was particularly important in cooking spaces. I observed how hot it was cooking in Aceh. Learning to cook an Acehnese dish with a friend was hot, physical work because of tasks such as using a large stone rolling pin to grind the spices (Figure 8.13) and cooking over the stove. In the participants' *dapur,* the main features include the stove, storage of cooking items and space for preparing food. Occasionally *kompor,* meaning stove, is also used to indicate a cooking space. Currently most stoves are gas, although in the past they would have been wood fired. Most cooking is done on the stove, with the stove being placed either on the floor or on a bench (Figure 8.14 and Figure 8.15). Other food preparation activities such as sifting the rice or frying snacks for a special occasion require space to prepare. For

example, discussing cooking with Rahmah and Zainabun, they describe the long process of cooking *kue:* '[it takes] a long time, one-by-one into the oil. Immersed into the oil, [then] must have a place, a metal tray [to dry]'. Rahmah's description highlights the amount of time taken to make the *kue* as well as the amount of space needed to lay them out to dry. Making one type of *kue* may take all night or all day. The *kue* is made and then sold in a café or stored for when guests visit. *Kue* is a snack food, often fried. It may be savoury such as a rissole or mini omelettes or sweet such as a donut or sugary cake like snack. These are eaten as snacks with coffee in the mornings, afternoons, and evenings.

Figure 8.13 Cooking, particularly grinding ingredients, is hot physical work. To prepare lunch this woman sits on a low wooden stool to grind spices.

Figure 8.14 A participant cooks on the gas stove. Photograph by participants.

Figure 8.15 Women prepare lunch for a special occasion.

Nurlaila cooks once a day, in the mornings. Nurlaila explained that ‘people here go to the sea at five in the evening, and get home in the morning. When they get home they bring fish. So just cook once. We cook two types, fried and with vegetables’. To check I have understood, I asked if her husband, who is a fisher, is very hungry when he arrives in the morning and whether that is why she cooks then. Nurlaila said, ‘no,

after he gets home [to the village] he drinks coffee first in the *kedai* café, then he goes home to the house and bathes, if he wants to sleep he sleeps or if not watches TV, he doesn't eat. He only eats once a day, when he wants to go to sea [as a fisher]'. 'He only eats in the late afternoon, not the evening', she said. 'In the evening he doesn't eat because he already has coffee and *kue* at the café' she said. For herself, Nurlaila said 'it is not certain or definite how many times [I] will eat in a day, sometimes at 10am and sometimes twice in a day'. Nurlaila said that in the mornings sometimes, if there is *kue,* she will buy *kue* from the café and have some tea. She wakes in the morning then 'work, cooking, cleaning like that. Eat at 10 or 11 am. In the late afternoon sometimes at 6 or 8pm there is another snack'. Therefore, Nurlaila and her husband eat *kue* during the day, but only one rice-based meal a day in the late afternoon. For Nurlaila and other Indonesian people 'eating' refers primarily to eating rice. The importance of rice is shown in a common Acehnese greeting, '*Pa joh bu*' which translates as 'have you eaten rice yet'. Someone would respond 'not yet', even if they have eaten snacks or noodles earlier. Similarly, when asked how many times a day she cooks, Nurlaila said she only *masak* (cooks) once a day. This is because when she talks about cooking she is referring to making rice or dishes to accompany rice.

The kitchens that participants have built onto the post-disaster houses were *luas* in the sense of being more spacious, but they were also given a sense of spaciousness because they had more ventilation than the post-disaster house. Sometimes this was because walls had not been finished, and so gaps existed between different building materials, allowing for greater ventilation. This area was then sometimes also used for sleeping in because it was cooler than the rest of the house. For example, Jufrijal said that his mother slept in the kitchen because she was older and it was cooler there. The other aspect of this may have been where the floor of the kitchen was wood rather than concrete, Jufrijal's mother may have preferred sleeping on the wooden floor.

Usually during interviews I asked participants if they would show me around their house. This proved to be a useful tactile way of talking with them about how they used space and the changes they had made to the house. Walking through the house prompted me to ask questions and prompted participants to explain choices that they

had made in changing or adapting the house. Interviews would most often take place in public areas of the house, including the front terrace or porch or the *ruang*. Often when I asked, it was possible to walk through the house into the back kitchen area. The back kitchen area was sometimes also used, depending on how spacious it was, as a family relaxing space. On occasion there would be a mattress or rug for the family to sit on, and sometimes this was where the TV was located. This space was differentiated as a more informal relaxed gathering area to the front *ruang*. In the pre-tsunami houses this family space was variously known as *ruang tengga* or middle room, ruang keluarga *family room*, or *ruang inong* women's space. The kitchen areas that participants have built onto the post-disaster houses is not simply a male or a female area, it is also a family space.

Most frequently, female participants would discuss cooking in the interviews, but males also cook, particularly for preparing a meal or snack on the fishing boat at night or when there is a special occasion at the house and all help is needed. Both males and females work in the *warung* cafes in the case study village, both serve customers and prepare food and drinks. Usually these are married couples and their children. Similarly both men and women sell food in stores and at the fish stalls. In general, women are more likely to make *kue* (snacks) than the men, however this is not always the case. If the household has chickens then caring for them and collecting eggs may be the responsibility of women or children.

I was surprised that the INGOs post-disaster houses did not have kitchens in them. Participants' were unclear about why there were no kitchens, many said they were unaware that there wasn't a kitchen until they received the house. Although they approved the house plans based on the floor plan and elevations of the house they did not recall asking or being asked about the kitchen. One participant speculated that the INGO may have run out of money to build kitchens. Another participant who was in a leadership role and negotiated with the INGO explained the lack of kitchens as follows:

> Ah, now that is what we don't know.... When we built the house, yes we desire a kitchen. But when it was built there is no kitchen so we just receive it. Maybe indeed in the planning there is no kitchen, like that, so [we] make

> the kitchen ourselves. Instead I build a kitchen that is bigger, I build a kitchen which instead is bigger than the aid house (laughs).

This participant had been able to construct a kitchen which he described as larger than the 36m^2 aid house, this would not have been possible on all plots or for participants from other livelihoods. I was surprised that there were no kitchens in the aid houses but this issue was only raised during the interviews when I asked participants about their kitchen. As I explain in Chapter 9, these communities were capable of approaching the INGOs at their office, and conducting protests and roadblocks in response to other issues with the post-disaster housing, but they did not protest the lack of kitchens. The lack of kitchens, and the lack of community protest about this, did not mean that kitchens were unimportant to them. One possible explanation was that the participants knew that people in other villages also did not have kitchens in their post-disaster houses, which meant that everyone was in the same boat. An important issue to note from this discussion is that looking at the post-disaster house plans participants did not understand that there was no kitchen in the post-disaster houses. This issue suggests that showing the community the floor plans of the proposed aid houses was not a meaningful way of involving them in the design process.

8.7 Washing Activities

Washing activities take place either close to the well and/or to the rear of the house. Post-disaster houses built by Oxfam in Lhok Seudeu did have a well included. This well was located at the back wall of the house, next to the bathroom. When households in Lhok Seudeu enclosed their kitchen area the well was then inside their kitchen and close to their washing space (Figure 8.16). This allows inhabitants easy access to water for bathing, washing clothes and household items such as cooking items. As explained in Chapter 5, Oxfam built two phases of housing in Lhok Seudeu. In the first semi-permanent houses there were no wells or bathrooms. However, when Oxfam returned to build permanent houses they were able to incorporate both wells and bathrooms into houses.

Figure 8.16 In the post-disaster houses built by Oxfam the well is at the rear of the house, now enclosed in the kitchen (left).

Figure 8.17 As there were no wells in the houses built by World Vision only some houses have afforded a well. These were built at the front of the house (right).

In contrast, households in Layeun (1, 2 and 3) were not given a well by World Vision. Instead, where possible, inhabitants in this part of the village have built their own well or use their neighbours' well. To access the water that well has been built at the front of the house (Figure 8.17). This may be because residents did not have funds to pay for a pump to carry the water to the rear or inside of the house. For instance Nurlaila compares the houses by Oxfam and World Vision: 'if I compare

[my Oxfam house to those built by World Vision] I am comfortable here, very comfortable living here, for here there is a water pump, there is a well. In Layeun there is no water pump, [they] have to make a well by themselves that is why I say [it is] comfortable [here] even though it is small'.

Kamar mandi or *kama manoe* are the Indonesian and Acehnese words for bath rooms. *Mandi* or *manoe* means to bathe. A *mandi* is a large container for water. It could be a large bucket or a masonry container. The *mandi* water is either pumped or manually filled from a well. Therefore, many people try to keep the *mandi* full of water so that they have it when they need it, rather than only having water when there is electricity (as black outs are common in Aceh). Water from the *mandi* is scooped out using a smaller bucket for body washing and washing after the toilet (Figure 8.18). People also wash themselves up to five times a day before prayer. The water in the *mandi* may also be used for washing kitchen tools and crockery, clothes, and household items such as sheets or for mopping tiled floors. In Figure 8.19, one participant is washing kitchen utensils in a bucket. Most households in the case study area do not have washing machines. Even if there is a washing machine in the household it may have to be manually filled with water for each cycle of the wash.

Figure 8.18 Inside the bathroom is a mandi and toilet.

Figure 8.19 A participant sits on a low stool in the wet area to wash kitchen utensils. Photo by participants.

The location of the *mandi* and *WC* (water closet or latrine) at the back of the post-disaster house is consistent with the private activities that take place there.

For those households living in World Vision houses, where possible they have built their own wells. These are located at the front of their plot because that is where the access road passes their house. In Layeun, not everyone can afford a well. For example, Barona and her two children use their neighbour's well. Because the well is at the front of the house, one participant who runs a laundry business washed clothes by hand at the front of the house. To wash people carry the water into the house or to the side of the house, rather than bathing at the front of the house. In other villages I have seen instances where wells are to the back or side of the house, and are shared, so that they become social areas where people gather to wash clothes and kitchen items.

In Layeun, Meliza uses water from the well for her daily needs, although the water is a murky yellow. She has tried to use a filter but there was no change. She buys water for drinking and cooking, which is common practice. There is one business selling drinking water in Layeun. Some other women also commented that their well water was yellow, which they attributed to being close to the mountains. Following the tsunami, before bathrooms were built by Oxfam in Lhok Seudeu participants said

that they went to the river to wash, bathe and toilet. Some participants may still use the river while they are farming inland.

8.8 Conclusion

In this chapter I have explored how participants inhabit post-disaster houses. Living in these houses is a process of both adapting to, and where possible, adapting this built form to suit their existing housing relations. Drawing on their sense of place (outlined in Chapter 6), participants responded to the disruption created by a new type of housing. While the new houses offer significantly more sustainable living spaces than the barracks or temporary shelters participants inhabited immediately following the disaster, they also challenge cultural norms and domestic and social practices on a daily basis. Inhabitants were both grateful for receiving these houses and conscious that they have limited alternatives (see Chapter 7). The participants' ability to adapt these houses to suit their needs and lifestyles is constrained by small plot sizes, lack of affordable materials and the masonry construction. Given the difficulties described in this chapter a key question arises: in what ways were the inhabitants involved in the planning, design and construction of post-disaster housing? In the following Chapter I argue that the participants experienced two very different reconstruction processes which were shaped by their own leadership capacities and their interactions with two different INGOs.

9. Leadership Capacities: Two Stories of Reconstruction and Interactions with INGOs

9.1 Introduction

In this chapter I examine participants' experiences with two INGOs, Oxfam and World Vision, that undertook housing reconstruction in the village. I argue that a key feature of the interactions between the participants' and INGOs related to the roles and capacities of their leaders. In particular, I explore participants' descriptions of the INGOs actions in attempting to facilitate their participation in the reconstruction process.

I identify key differences between the relationships established by Oxfam and World Vision according to the communities. Although both INGOs engaged building contractors they managed these contractors differently. Oxfam employed a foreign staff member, as an on-site manager, who lived in the village and was directly responsible for the quality of the building materials and workmanship. In contrast, World Vision initially gave responsibility for material and construction quality to the building contractors. When issues emerged they changed this approach to allow households the option to choose their own materials.

I also identify differences in the leadership capacities of the two distinct communities that were created through the reconstruction process, Lhok Seudeu and Layeun (1-3) (see Chapter 5). I consider how these differences influenced the way in which they participated in the housing reconstruction process, and the material quality of the houses.

9.2 Leadership in the Village of Layeun

Layeun was and is classified as one *kampong* (village) in the Government census. Within Layeun there are four *dusun* (neighbourhoods). Prior to the tsunami three of these *dusun* were clustered within one bay and the fourth was dotted along the main road and centred on the fishing jetty. The village of Layeun has an elected village leader, as does each of the four *dusun.*

The head of the village is known as the *Kepala Desa*, *Pak Keuchik* or *Ketuan*. Next in the village structure is the village secretary (*Sekretaris Desa*) who is responsible for the administration of the village. There are then *Kepala Dusun* (or *Kepala Lorong*) who are the leaders of the neighbourhoods of houses within the village; in the case of Layeun there are four *dusun* leaders. Within the village there are *Toko Desa* (*Tuha Peut*) who are respected elders who people go to with everyday issues or cultural or traditional problems, on ceremonial occasions these are the village representatives. *Toko Masyarakat* are other respected members of the community who people go to for advice. There are also several councils or groups within the village (including fishing groups, farming groups, village elders, religious groups and women's groups).

However, during the reconstruction period this village operated as two distinct entities. The reconstruction of three *dusun*, Layeun one, two and three (hereafter 1-3), was led by the village leader, these houses were constructed by World Vision. In the fourth *dusun*, Lhok Seudeu, the *dusun* leader led the community and these houses were built by Oxfam.

The distinction during the reconstruction between Lhok Seudeu and Layeun (1-3) is largely, though not exclusively, due to the differences in the leadership capacity and resources of the *dusun* leader of Lhok Seudeu in comparison to the village leader of Layeun. During the reconstruction, Lhok Seudeu was effectively politically independent from the rest of the village. It was the *dusun* leader rather than the village leader who represented Lhok Seudeu in negotiations with the INGO. This division in leadership was reinforced by the two INGOs who worked in the village employing very different approaches to rebuilding. The profound differences in the experiences of these two groups are reflected in the separation of this chapter into two parts. The first details the experiences and reconstruction stories of those in Lhok Seudeu. The second is centred on the stories of those in Layeun (1-3).

9.3 Lhok Seudeu in Context

The first critical moment in Lhok Seudeu's experiences with INGOs began in the emergency camp when the *dusun* leader of Lhok Seudeu, Zaimuddin, met a European working for Oxfam. As the leader's wife tells the story, the foreigner was

moved by the leader's story and decided to accompany the leader and some members of the community on their walk back to the village to see what the situation was. Physically difficult and dangerous, this walk meant spending two nights in the jungle, following the path of the river. It was undertaken at a time of extreme uncertainty when large earthquakes continued to occur and conflict between the Indonesian military and Acehnese freedom fighters was ongoing. That the foreigner undertook this journey with members of this community displayed a great deal of trust on his part. According to the leader, this foreigner then promised that if no other INGO was assigned to build housing in Lhok Seudeu then Oxfam would build for them. This promise was the first indication that INGOs were going to build housing for the village, yet this promise was not guaranteed. Later the community would learn that a promised housing project in the neighbouring village (by another INGO) did not occur. At the time, due to lack of foreign aid in response to the conflict the community had no expectation that INGOs would build housing anywhere in Aceh, let alone in their village.

However, pre-disaster experiences meant that people in Lhok Seudeu were potentially more comfortable meeting foreigners than in other rural areas of Aceh. For example, one participant, M. Razi, talked of two occasions when foreign yachts had stopped in the bay and the families on board had stayed with families in the village before the tsunami. Given the lack of foreigners in Aceh during the conflict, this experience was quite unusual.

Following the tsunami the people of Lhok Seudeu became independent due to their strong leadership, Jamaliah explained:

> It is true that our village is still Layeun, but from the beginning of building [the post-disaster housing] we have not used the village leader, when building the houses we lobby[49] by ourselves. Nothing went through the village leader, only through our *dusun* leader here. The main thing is that here we [look after] ourselves.

[49] She uses the English word lobby to describe the relationship between the leader of Lhok Seudeu and the INGO.

Both the *dusun* leader and his wife survived the tsunami. At the time of the tsunami, Zaimuddin had been *dusun* leader for 10 years and prior to that he had assisted the previous leader. Having an ongoing, and un-interrupted leadership, strengthened his role as a voice for people in the *dusun*. Zaimuddin and his wife also had strong ongoing support in the community. At the time of interview, Zaimuddin remained the leader of the village despite requesting that he be allowed to resign[50]. He explained:

> Leading is tiring, always tired. I have already how many times, since the tsunami, already almost four times I request to step down … so that I can rest for a while. But the community does not want it … don't want to change.

As articulate, confident people, the *dusun* leader and his wife were able to successfully represent and negotiate on behalf of those in their *dusun*. Zaimuddin's personal circumstances also increased his leadership capacity. For example he and his wife had no children at the time, allowing them to be able to travel on foot between Banda Aceh and Lhok Seudeu and to return to live in their village without being concerned for the wellbeing or schooling of their children. This was an advantage as other people within the community chose to stay in barracks outside the village both before and while housing was being built so that they could access clean water, food supplies and schools for their children.

With only five original families in Lhok Seudeu, and around 15 houses pre-tsunami, the leader had a small group of people to organise. This made it relatively easier for him to contact and trace members of the community even after they had evacuated to the emergency camps, barracks or were staying with extended family. The family network also allowed Zaimuddin to more easily find out what had happened to members of the community who were not in the village on the day of the tsunami. This network also made it easier for Zaimuddin to communicate with members of the village. For example, he realised the importance for young couples to register themselves for a *Kartu Keluarga* (*KK*) or family card. A family card lists the head of

[50] He had actually been put forward by the community for election as village leader, but he withdrew his name from the ballot because he felt he was busy enough looking after one *dusun*.

the household and their dependants, often the household head is a male and his wife and children are listed on his family card. Pre-tsunami a household may have consisted of a couple, their married children and grandchildren. In this rural community a married couple may have moved out of the family house but not applied for their own *KK*. Post-disaster houses were allocated according to the number of *KK* or family cards. If the parents had a *KK* with their married children on it, rather than the young married couple having their own *KK*, then only one post-disaster house would be given to this extended family. The post-disaster houses were designed as single family units, rather than multi-family or extended family houses. In Lhok Seudeu, because of the small number of people and the close ties between them, the leader was able to encourage couples to get their own *kartu keluarga* so that they would have their own house. This has meant that the number of houses in Lhok Seudeu has risen from around 15 to 50 as young couples have been given their own house. For example, M. Fadhil lived with his parents and siblings prior to the tsunami. Following the tsunami he met and married his wife, who was from another village and they now have their first child. He returned early to the village and was part of a field committee working to clear the village of debris and oversee rebuilding. They have their own house, as do his siblings and his mother. Jamaliah also lived with her mother before the tsunami in a wooden house on stilts, Jamaliah and her husband now have their own house just around the corner from her mother's house.

As a rural community centred on fishing, fishers in the village belong to a fishing group. There are around eight people in each group who work together, this meant that the community already had strong social organisation; both the village leader and the INGO were able to take advantage of that existing organisation structure to create community field groups to oversee reconstruction. Each of these factors was important in shaping what happened in this community.

9.4 Reconstruction in Lhok Seudeu

Zaimuddin believes that Oxfam's decision to build housing in Lhok Seudeu was because of the connection between this community and Oxfam. He asked: 'So why did Oxfam build here? The important point is because of this community, because of the community's request'. He relates Oxfam's decision to work in Lhok Seudeu to

the strength of the inhabitants desire to return and remain living in their pre-tsunami village. Zaimuddin does not view Oxfam's work as an arbitrary allocation of resources, but rather as a deliberate act to support and facilitate the community's decision to rebuild their lives in this location.

Zaimuddin explained that initially there were many Government restrictions on where and how the INGOs rebuilding could be undertaken:

> Indeed at that time many things were forbidden by the local Government, forbidden by the Governor too. At that time there was an instruction from the Government [that buildings must be] 500 metres from the sea, [this was] already an emotional issue… [But now] we are, how many, only 15 metres [from the sea].

Zaimuddin argues that the reason that their houses were built 15, rather than 500, metres from the sea is because the community argued that they would not be moved inland. As I explained earlier in Chapter 6, this community refused housing aid (by another INGO) on the basis that it was in another area of Aceh before they knew it would be possible for aid housing to be built in their village.

The community of Lhok Seudeu wrote a letter to the Acehnese Government to state that they would not be moving and that they rejected the notion of relocation. Zaimuddin was assisted by students from one of the universities in Banda Aceh and Oxfam staff to write this letter. The letter stated that the community was not afraid of future tsunamis. Zaimuddin believes this letter contributed to the Government's decision to revoke the relocation policy: 'after a month there is a law from the Government [that houses can be built] wherever the community wishes to build houses'.

It is unlikely that this letter alone led to the BRR abandoning their policy for a 500m green belt between the shore and houses. There was significant confusion among communities and INGOs about this policy, many houses were built within the 500m zone including BRR's own houses. However, it is important to note that Zaimuddin felt empowered by the process of writing the letter and having his views heard.

Within six months of the tsunami occurring, Oxfam had conducted village mapping with the community to identify and confirm land boundaries and ownership, and drawn plans for a new settlement layout. They had also negotiated with the community for the intended owners of the new houses to buy the plots from the previous owners and begun building semi-permanent housing on the new plots. In addition to rebuilding, Oxfam supplied generators, fresh drinking water and stoves, which were vital for everyday life during the reconstruction period.

As Zaimuddin explained, the first houses in the district were built in Lhok Seudeu:

> In the fourth month we were cleaning the land. We were [the] first. In the sixth month of 2005 we had already started building … so in the district of Leupung we were the first to build houses … In the tenth month of 2005 we had already got a house … In the district no other [houses] were ready.

His description indicates a strong sense of ownership of the rebuilding process. When semi-permanent houses (Figure 9.1) were built in Lhok Seudeu few other housing projects had begun, not only in this area, but throughout Aceh. These were the first built structures after the tsunami that participants referred to as *rumah* (houses), rather than *gubuk* (huts). I argue that the concrete floor of these houses was a significant element in distinguishing them from the previous *gubuk* or shelter. This is not simply because they were concrete, but because good quality concrete floors in comparison to dirt or poor quality timber are easier to clean. As explained in Chapter 8, the cleanliness of floors is important given that inhabitants spend time sitting on the floor, their cooking and washing activities are often carried out either sitting on a mat on the floor or on a low stool, and their guests would sit on a rug on the floor. Thus the quality of the flooring and how easy it is to keep clean is very important.

Figure 9.1 One of three semi-permanent houses built by Oxfam remaining in Lhok Seudeu.

The semi-permanent house is an example of the incremental type of building process, whereby people build a wall or extend a room when materials are available. For example one participant, Baihaqqi, explained that before the tsunami: 'We look for materials ourselves, make it ourselves. Little by little'. Over time the participants could have changed the fabric, entrances, windows and layout of the semi-permanent houses (within the constraints of the plot size).

However, the semi-permanent houses were demolished by Oxfam and permanent houses were built in their place. Amir explained that they lived in the semi-permanent houses for around one year before Oxfam dismantled these houses (all but three) and began constructing 'permanent housing'. Zaimuddin explained that people were able to swap houses or share houses while the new housing was built, so that while the first 25 were pulled down and rebuilt, the people from those houses were

able to share with other people. Then in the second phase the people swapped to sharing in the new houses.

Participants in Lhok Seudeu had different ideas about this housing process. Some stated that Oxfam built the semi-permanent houses as their donation to the village, not expecting to rebuild later. Other participants stated that Oxfam had always had the intention to first build semi-permanent houses and later return to build permanent houses. Yet other participants believe that Oxfam's decision to return and rebuild new permanent housing was because the community lobbied for this. Jamaliah stated:

> This house was built twice. The first time Oxfam built semi-permanent, after that we lobby Oxfam again, then [we were] given permanent [houses]. In 2007, we already sit in permanent houses…

The leader of Lhok Seudeu, for example, described travelling with other members of Lhok Seudeu to the Oxfam offices in Banda Aceh with details of the problems with the semi-permanent houses. Those problems were said to be issues with rats eating through the walls creating dust and there were no toilets in the houses. Nurlaila, for example, said that initially in the semi-permanent houses there were no wells or bathrooms and the wood was not good quality.

When Lhok Seudeu went to Oxfam with their concerns, permanent post-disaster housing had become common practice in Aceh, including in neighbouring villages. In early 2006 the BRR (the local authority managing reconstruction in Aceh) set minimum standards for housing reconstruction in Aceh as 'permanent' meaning full masonry housing. In response to these standards some INGOs decided to demolish the semi-permanent houses they had built and rebuild full masonry houses.

9.5 Interactions with *Si* Paul in Lhok Seudeu's Permanent Housing

When Oxfam returned to Lhok Seudeu to build permanent houses a foreign staff member was directly responsible for ensuring the quality of the building materials and workmanship of the houses. That staff member lived on and off in the community, for an unknown period during the reconstruction. When permanent housing was built by Oxfam, every step in the building process was evaluated by the

Oxfam staff member, who ensured that if either the materials or the construction method were poor quality then the work was pulled down and reconstructed.

One of the most striking aspects of discussing the rebuilding process in Lhok Seudeu was that participants remembered this foreigner by name. Participants often mentioned the decisions and actions of: '*Si* Paul'[51]. It is unusual for residents to know or recall the name of a foreigner involved in the reconstruction (this did not happen in any other village I visited). If a foreigner was mentioned they were usually referred to as '*Si buleh'* meaning the foreign white person. Yet participants in Lhok Seudeu said that it was because of *Si* Paul that they had confidence in the quality and strength of their houses. Because he was often living in the village, inhabitants had time and opportunity to talk with him and ask him questions. This time also gave Paul the opportunity to see how people lived and what they needed. Participants had the impression that Paul liked being in the village because he would play soccer and eat meals with them. For example Jamaliah said '[Paul] really like it here. When he had time, sometimes Saturday night [he's] here. [He] really like it'. Nor was it only the leaders or those involved in coordinating reconstruction that talked about Paul. Paul's legacy is such that people who were not present during reconstruction would talk about what he had done to ensure their house was safe. For example, one woman who stayed in the barracks with her baby during reconstruction and did not meet Paul, told me about how he had checked that the foundations of her house were deep and that because of this her house was strong and of good quality.

Nurlaila described how Paul controlled the building work: 'for example if this house isn't good he didn't accept it'. She indicated one house and said 'he took that house down three times'. Nurlaila said:

> Sometimes a house had to be taken down a few times ... If it wasn't good they [the building contractors] don't get the money. For example when they make that house, it is true that house is for Acehnese people [and] built like that we can already use it, just have to brace the windows, brace the doors. [But] he look to the top "this isn't good, take it down again" [he said].

[51] 'Si' is an identifier in Acehnese, similar to Mr or Miss in English, but more familiar than those.

By insisting on quality materials and workmanship, Paul taught the inhabitants about the importance of strong foundations and the danger of poor quality building work. Nurlaila said that 'we are very comfortable because the foundations are as tall as us, they can't crack on their own'. She said that during earthquakes, rain or storms there has been no damage to her house. Another participant, Aliah said: '[the house is good] because this house uses stones and cement and is strong during an earthquake, indeed I feel it would only be destroyed if God really wanted to take it, but in an earthquake this house [is] still standing'.

A key strength of Paul's relationship with those in Lhok Seudeu was open communication. Zaimuddin, the *dusun* leader said that from the beginning Paul had told him there must be frequent communication between them. Another participant, M. Fadhil explained that when there was a problem Zaimuddin would directly phone Paul and Paul would arrive to fix it. Although M. Fadhil and other participants said that there were Acehnese staff with Paul, they did not talk about the decisions or actions of those staff.

Importantly, it was not only those in a leadership position who communicated with Paul, but also women in the community approached Paul to explain what they wanted and needed in the houses. Nurmala, for example, talked about what she asked Paul for:

> ... in the interview with Mr Paul [I said that] I want to make a place for selling/a store. If I cannot there is no need to build [me] a house. The most important thing for me is my livelihood. I am my livelihood. Before these people [the NGO staff] leave here I have to be able to live independently.

Nurmala was given an opportunity to express her needs and had trust that Paul would listen to her. Another female participant, Nurlaila said that the semi-permanent houses initially had no bathroom. It was difficult for her to live in a house without a bathroom, so: 'when they [the semi-permanent houses] were taken down I said to Oxfam, I said I don't want it if there is no bathroom'. Importantly Nurlaila used the words '*Saya bilang sama mereka…'* meaning I said to them; 'I said to them [Oxfam] I have to have a well. I have a small child, my child is only a few months [old]… not yet one year [old] and it is difficult if there is no water. I said that'. It is significant

that both these women felt able and had the opportunity to express what they needed in the new housing.

In communicating with Paul, the villagers were not afraid that raising their concerns with Paul would mean he would disappear and not complete the houses. M. Fadhil recalled a time when some poor quality bricks were bought. He said the second time poor quality bricks were bought they decided it was corruption and they reported to Paul. This participant argued that the difference between Paul and other foreign staff was that the others would arrive and say 'this is not good, that is not good' but they did not solve the problem. M. Fadhil said 'but *Si* Paul he wanted to work' to solve problems.

However, it is interesting that participants did not ask for kitchens in their rebuilt houses. One participant thought this was because the house plots were too small for a kitchen to be built onto them. When I asked Nurlaila why she requested a well but not a kitchen she replied '[I] don't know. That was the leader who didn't say anything. [They] didn't tell us about the problem of the kitchen. Because … it is true that many were built without a kitchen, right?' Nurlaila's point here is critical, the fact that most post-disaster housing aid throughout Aceh were built without kitchens, may mean that participants felt they had less justification for raising this issue with the INGO. Yet in general Nurlaila is happy with her Oxfam house:

> With Oxfam it is very good for us. We have our own house, [we can] paint it ourselves, use it ourselves, the paint was given to us. We were given lights, everything was given… Therefore with Oxfam wow… it is good.

It is clear how important Paul's time in Lhok Seudeu was for the community because the stories of his decisions continue to give participants confidence in their house. The legacy of this Oxfam staff member and for Oxfam itself remains evident today.

9.6 Layeun 1-3 in Context

In contrast to the strong continuity in leadership in the *dusun* of Lhok Seudeu, the overall village leadership; was disrupted by the tsunami. The new village leader, appointed shortly after the tsunami held a temporary position until an election could be held. The process for electing the subsequent leader was unclear as the person

elected resigned shortly after due to diabetes. Instead of the runner-up becoming the leader the third candidate took up the leader's role. As one participant joked, there have been two and a half leaders since the tsunami.

The three *dusun* leaders in Layeun 1-3 were less independent than the *dusun* leader in Lhok Seudeu, as they relied on a village leadership for post-disaster housing. Therefore the leadership capacity for Layeun 1-3 was very different to that for Lhok Seudeu.

In Layeun 1-3 the village leader was responsible for three times the number of people as the *dusun* leader in Lhok Seudeu. The ongoing change in leadership also made co-ordination and communication difficult; it was unclear who had been in the village on the day of the tsunami, who had survived the tsunami, who may have sought shelter with family and friends and where those people were. A key time-saving advantage for Lhok Seudeu was the ability to locate and communicate with members of the community. In contrast one participant explained that in Layeun 1-3 some people were working elsewhere, with no means of communication as there were no mobile phones. As the leaders did not know if those people would want to return or not, they were unable to 'sign' on their behalf when village plans and house allocation was organised by the INGO, and so those people did not receive a house. When they later did return to the village there was no house for them to live in.

9.7 Reconstruction in Layeun 1-3

Oxfam became the INGO responsible for Lhok Seudeu, as a consequence of the *dusun* leader meeting an Oxfam staff member at the emergency camp. However, World Vision was allocated to provide housing aid for Layeun (1-3). World Vision began building housing in Layeun after the minimum standards for 36m^2 masonry housing had been set by the BRR in April 2006 (Chapter 5). As in Lhok Seudeu, the INGO's work included confirming existing land ownership and land boundaries through a process of village mapping with inhabitants of Layeun 1-3. World Vision then drew up plans for the post-disaster settlement which were signed off by the community before building work could begin. In Layeun 1-3, World Vision chose to hire a building contractor to manage the reconstruction. Houses in Layeun 1-3 were

built in three stages. Houses in Layeun one were built first, Layeun two was second and Layeun three was built last.

During the construction of houses in Layeun one, inhabitants noticed that the workmanship of the building contractors and the materials they were using were poor quality. This led residents of Layeun to blockade the main road from Banda Aceh, not only stopping building contractors reaching the site, but all other traffic on this main transport artery. From the residents' view point if the contractors could not reach the site then they could not meet the building work goals set by the INGO and therefore would not get paid. Those in Layeun 1-3 set up the blockade because they saw this as their only means of convincing INGO staff to visit Layeun and improve the quality of the workmanship and materials. The poor quality of the construction was attributed to the corruption of the building contractor who they believed was syphoning funds. Participants did not blame the INGO for this issue. Participants said that due to the blockade, World Vision arrived and renegotiated the construction process for Layeun two and three, allowing households to choose their own materials. For example, one resident commented: '[this house] is good, from the start the type of wood is good, maybe because my brother chose it. It is true that in other houses the wood has been eaten by termites, but compared with two other villages in our district actually [ours] is good'. For this participant, World Vision's decision to allow inhabitants to choose their own materials led to better quality timber in her house.

The road blockade was not the only time participants held a demonstration. They also went to Banda Aceh to demonstrate because they did not think it was fair that they had to purchase land (from the previous owners) for their houses to be relocated inland from the sea. The participants demonstrated because they said that when other communities were relocated the BRR had paid for the cost of that land. The community in Lhok Seudeu did not demonstrate because Oxfam staff members had assisted them to write a letter to the government shortly after the tsunami to argue their firm conviction to remain in their original location.

In contrast to Lhok Seudeu, residents of Layeun 1-3 lack confidence in the strength and stability of their houses during earthquakes. Participants in Layeun 1-3 described running outside their house during an earthquake, whereas those in Lhok

Seudeu did not. For example, in a group interview two women Ayu and Imai discuss their fear that their house would collapse in an earthquake:

> In the village we are not worried any more [about tsunamis], it is already safer … But with the cement houses we are rather worried. Sometimes if there is an earthquake we go outside, [we are] afraid it will collapse and we won't be able to get out. But with the wooden houses [pre tsunami] we were not afraid … Here the community said we were happier before the tsunami. Even though a lot of permanent aid was given [to us] it was more comfortable and good before … Here in Aceh we say that Aceh is unsettled, prone to earthquakes. With this [post-disaster] house, if we don't go outside we are worried. [We are] scared the house will collapse. But the Acehnese house [the traditional Acehnese style wooden house] did not collapse. So if we [stayed inside] the [pre-tsunami] house there was no problem. For this [post-disaster] house, if there is an earthquake we go outside, that is what is not comfortable.

This couple explained that the pre-tsunami housing, whether timber or masonry, was comfortable on the basis that it was safe during an earthquake. They were able to remain inside during an earthquake without being worried that the house would collapse. In contrast they currently run outside the house if there is an earthquake for fear that the house will fall on them. This is difficult if the earthquake is at night or when children are at home on their own. In another group interview in Layeun three, the female participants also comment on their fear that the house will collapse:

> Yes, we are very scared, especially [because] this house is not that strong… Scared [that it will] collapse, we go straight outside, if we are sleeping we wake up and carry the children straight outside, this house is cracking here [points]. [We are] not brave [to stay inside].

The propensity for houses in Layeun 1-3 to have cracks in the walls and floors is not solely due to the quality of workmanship or materials. USAID who built the west coast road which runs from Banda Aceh along the coast and blasted the hill bordering Layeun to create a new road pathway inland from the ocean. The use of explosives to create the road has cracked the masonry walls and floors of the post-

disaster houses in Layeun 1-3. For example, when I ask Putri about the crack in her wall, she replies: 'this crack is because of that road bomb, not because of an earthquake, [the impact of an] earthquake it is not as damaging as that'. Syarifuddin commenting on the cracks in his wall also explained: 'it is usual in Layeun … none of them are perfect any more after earthquake [and] blasting for the road destroy them all'.

Participants in both Layeun 1-3 and Lhok Seudeu received funds in late 2010 by USAID to repair cracks in their walls or floor. Participants said that the money was between AUD$60 to $100[52]. In Lhok Seudeu M. Fadhil for example said 'for us [we are] comfortable. The construction is good, quality is strong, with an earthquake [they] withstand. Because when testing that road bomb, this [indicating his house] vibrated but there was no problem.' However, he did receive money from USAID, 'we didn't use that money for repairs, we use it for us'. None of the participants who mentioned this money said that they used it to repair their house. Their decision not to repair the cracks was not because they were unconcerned about them. Two reasons were given for not using the money to fix the cracks: either because that amount of money would not have covered the cost of the repairs or because they needed the money for everyday needs. To put that amount of money in context, using participants own estimation of living expenses, AUD$90 would pay the rent of a post-disaster house in the case study area for six months, or would pay everyday living expenses for 6-10 weeks. Given that the road through the hill has had to be built twice[53] due to landslides, I expect that even if people were to fix the cracks in their walls today they would expect to have to do it again in the future due to further road works or earthquake damage.

Participants in Layeun 1-3 talked about the confusion surrounding the aid process particularly in terms of what was available and what was possible. Even those participants who held a leadership role in Layeun 1-3 were confused about how aid

[52] Money was given to households in both Layeun 1-3 and Lhok Seudeu, however there is more damage to houses in Layeun 1-3. Houses in Layeun 1-3 are closer to the site of the blasting than those in Lhok Seudeu.

[53] The money was given shortly before the road was rebuilt the second time, possibly as an incentive for the community not to protest that the landslides had blocked the main road for more than one year.

was delivered, what World Vision had promised them, and why some things that were promised were not delivered. Participants thought they had been promised an escape route up the hill behind the village, drainage to prevent flooding to the houses, and household utensils. They thought that these had not eventuated because someone else had corrupted the funds, not the INGO. For example, Mahfuddin, who held a leadership role said that two thirds of the aid funding had disappeared: 'one part … is given to the disaster, I see like that, two parts run away, who knows where, the money running.' He likens the post-tsunami aid to a kite, saying it is beautiful to look at, but if the string is traced it is controlled from outside Aceh. This participant explained:

> finally today we are bewildered, lost in thought, why during that [time] didn't we make use of it. Because we did not have experience of tsunami, no experience with how [the process of] aid works. We just work at that time, it wasn't possible for tsunami people to just sit [around]. There are those that sit in the swing, and those who swing it. Yes we were oblivious to that. In short our story is like that. Today we feel regret. It seems those who exploit us were other people.

Another participant, Iqbal, commented: 'At the emergency period there was lots of money here and there, but [we] can't get it because [we were] busy ourselves, now is when we need help for starting up businesses.' These two participants seem to view the aid process as a missed opportunity because they and their community were busy working and unable to make the most of the aid funding. Even though they are grateful for the houses they received, they believe that more was possible given the amount of aid money in Aceh at the time.

Unlike in Lhok Seudeu where the community members spoke of asking an individual Oxfam staff member about their house and conveying their needs, for residents in Layeun 1-3 the process of negotiating with the INGO was carried out by the village leaders rather than the wider community. For example Nurbayani stated: 'Yes [the INGO] ask where to locate [the houses], whether over there or in another place, [but] this wasn't with us, this was with the village elders, with the leader, we don't know anything about the house problems'. When I asked Nurbayani whether she joined the discussions, she replied:

> No, that was for the village elders, for us wherever our husbands bring us we are already resigned, even if we are not brought home to here, maybe brought home wherever, we are already resigned … First those people [the village elders] conference with the people from World Vision. They [the village elders] ask us "how about the toilet, [do you want it to be] inside or outside the house?" We said "just outside" like this they build it outside. Next, when we wanted to ask how big the house will be they had already [decided] to make it like this, [it is] not possible [for] them to make it bigger.

Another female participant, Masyitah, also said that she did not have the courage to look for assistance on her own, and that she would only seek aid if many other people in the village were facing the same problem and they could seek aid together. Her prime fear appeared to be that village leaders may become angry with her. One participant Mahfuddin, who held a leadership role in Layeun 1-3, believed it was difficult for the inhabitants to participate or be engaged in the housing discussions because either they were traumatised from the tsunami or they were busy trying to earn a living. Furthermore he said that because the houses were donated, the residents did not want to anger or make a fuss with the INGO because the houses were a gift for them. Mahfuddin stated that the community members were concerned that if they were difficult for the INGO to work with then the INGO would leave. He explained that rather than asking questions they tried to accept what is given to them. For example, when discussing why there were no kitchens in the World Vision houses Mahfuddin explained that it was a combination of not understanding the drawings and confusion surrounding the process. He said:

> Because we are laypeople, there are no expert engineers here… it was rushed … so when we look at the back [of the house in the floor plan], there was translation there is the kitchen. We actually [do] not [live] like that. In truth it is like this because we were [being] helped, [we] don't make a fuss, just receive …. Today [we] all have time to see this, but then we did not have time [to ask] where is the kitchen. One reason [is] because we were evacuated [so] not everyone was there [at the meeting], only the elders. Secondly at that time people didn't have mobile phones yet… some people did not have time, some could not think, some just sleeping, or with their own headache. [We]

> were still very chaotic at that time. So… we are also feeling sorry for the people who come to meet us… sometimes we are not here. But they understand this, the people who bring the aid understand [that] for us it is a time of trauma, so there wasn't a problem. So indeed there was no time… to see where the kitchen is. Only after the house was built and [by] then it was already done.

Mahfuddin believed that since the tsunami, the community's sense of independence has diminished:

> About the culture of the community, before the tsunami the community was already independent… independent in [their] work, whether they were a fisher or a farmer, or an entrepreneur in business. The feeling of independence was high before the tsunami.
>
> That is what I see is different [now]… After the tsunami that feeling of independence went down. Maybe it is an effect of the tsunami happening, that was very devastating, so maybe there is trauma there. At the time, the process after the tsunami with aid, in my opinion, was disorganised so that there was social change in the community themselves…so [they are] less responsible for themselves.

According to this participant, it is not that the participants' livelihoods or means of seeking an income that have changed. Instead, he argues, that their sense of responsibility or capacity to manage their own affairs has declined. For example Nurbayani described what it was like to be living in the barracks when the aid housing was proposed. She said at the time they did not go anywhere, they had not seen any aid housing, either by World Vision or another INGO, so they did not know how World Vision housing would compare. Nurbayani said that she was in a daze at the time. She described the process: 'the picture of the house, before it was built was given out to people, we see the picture, the shape of the house from the front, inside and the back.' Nurbayani asked how many bedrooms would be in the house, and was also told that there would be no kitchen, she said 'for us we don't have any desires anymore at that time, if [we were] given a small *pondok* (hut) that would already be "thanks be to God" very much. We [did] not request for example a type of house, no one [was] like that. Already given like this, it is already enough.' She explained that

people in her community were not asking questions, it was only when the houses were ready that they ask for a fence and a well, but she said that by then there was no more aid.

The timeline for the INGOs rebuilding in Aceh was 4-5 years yet the implications of the decisions and actions of those rebuilding programs continue for the house's inhabitants (see Chapter 5). As Mahfuddin explained, the communities' lives do not only last for 5 years. He said that people's recovery is long-term, and recommended that long-term planning would be better suited to meet the communities' long-term needs.

9.8 Conclusion

The research shows clear differences between the interactions of participants with the two INGOs. These differences hinged on the relationships of trust established by Oxfam staff members in returning to the village with inhabitants and in staying in the village to manage construction. The relations of trust built between these foreigners and the community meant that those in Lhok Seudeu were able to communicate their needs and concerns directly to Oxfam staff. This set the basis for Oxfam to begin to understand the housing relations within this community, including their need to remain living in their pre-tsunami coastal environment.

People in Lhok Seudeu had confidence in the construction quality of their houses. They were able to explain how thick their foundations were and why their houses had not cracked. The story of Lhok Seudeu is distinct because of the individual character of both the *dusun* leader and the community's relationships with Oxfam staff members. When talking about the reconstruction process, people in Lhok Seudeu highlighted their own capacities, the actions they took, the concerns they raised with the Oxfam staff and the decisions of their *dusun* leader.

In contrast, participants in Layeun 1-3 felt it was not their place to question the design of World Vision houses, but they did protest when poor materials were used. A key finding in this research is that the different leadership capacities within these communities contributed to different working relationships with the respective INGOs and that this affected housing outcomes in these two areas. The differences in

the participants' ability and confidence in communicating with the INGO is evident in how they took action when problems arose. While the leaders in Lhok Seudeu travelled to Banda Aceh to meet Oxfam at their office, the community in Layeun 1-3 blockaded the main road so that World Vision would return to the village.

Both the reconstruction processes experienced by inhabitants and the working relationships between inhabitants, building contractors and INGOs are complex. It is difficult to do full justice to this complexity here. Despite lessons learnt from previous disaster re-housing programs, it is evident from my research that more needs to be considered in relation to INGO engagement with leaders and communities to ensure appropriate housing is provided and to reduce the uncertainty and difficulties experienced by local communities.

10. Towards a Relational Approach to Post-Disaster Houses

10.1 Introduction

The aim of this thesis is to consider the lived experience of post-disaster housing. As explained in Chapter 2, much of the focus of disaster-related practice and research is understandably on the immediate impacts of disasters and how these may be minimised or avoided. However, conflating post-disaster conditions with emergency conditions often sees the specific, contextual concerns of local people overlooked in centralised and non-participatory processes of planning and service delivery. There has been limited focus on the everyday practices that are re-established after disasters. By rendering disasters outside of 'normal' conditions, the opportunity to learn from the knowledge and experience of people living in post-disaster conditions is missed. In response, the previous four chapters offer important insights into the lived experiences of post-disaster housing in Aceh. These insights have significant implications for future planning and delivery of post-disaster housing.

In this chapter I synthesise my empirical findings to argue for a more relational approach to post-disaster housing. I draw on five of the key themes that emerged from the data analysis; the importance of place for participants' political and cultural identities; the relationship between houses and sense of home; the potential for housing adaptations; the integration of housing, land-use and livelihood needs; and the need to empower participants in the housing reconstruction process. I consider these themes in relation to existing research and how they compare with post-disaster guidelines and recommendations to draw lessons from the study.

10.2 Respecting Sense of Place

Participants in this research expressed a strong attachment to their home place even after the physical transformation wrought by the tsunami. Their notions of home and place are broad, encompassing the landscape and environment in which they live, with their coastal location being of particular significance (Chapter 6). Their sense of home is tied to their everyday practices as fishers and farmers in a rural community. The performance of everyday life is a source of political and cultural capacity for participants. Following the traumatic experience of the tsunami, participants sought

to return to familiar everyday rhythms and to restart their livelihoods as a pathway to their physical and emotional recovery. Although disrupted by the tsunami, their fishing and farming practices are built on a lifetime or generations of knowledge about the local environment. In the same way as Waterson (1990, p.91) identifies the interdependence of hunter-gatherer societies with their environment, the inhabitants of the case study community also 'depend directly upon the land (or sea) and its resources, their relationship to which is extremely intimate'. The community has invested in and established working relationships which are embedded in their everyday activities in this home place; among families, neighbours, friends and working groups, such as the established fishing groups. These were a source of social capital in the post-tsunami situation.

The importance of place in sense of self and community is well documented (Hay 2002, Malpas 1998 and 2008, Relph 1976 and 1993). Relph argues that places are relational. Places are a centre of interaction between people, animals, the built and natural environments, and histories. Places are also intentional through the activities and meanings people give to places. Relph describes how the expression of place can be enacted through physically built structures which enclose people in a sense of inside-ness or through the living practice of enacting everyday norms in place. In *Place and Placelessness* Relph writes that home is pivotal to how we understand ourselves and our lives; '[i]t is home, where your roots are, a centre of safety and security, a field of care and concern, a point of orientation'(1976, p.142). Home places are not only important for us as individuals but for how we identify as communities. Relph (1993) argues that 'distinctive places are necessary for a reasonable quality of communal life and psychological well being'. Understanding this ecology of relations between inhabitants, everyday living and livelihood practices, local landscapes and built structures is vital to understanding the experience of living through and beyond disasters.

Post-disaster guidelines advise governments and INGOs to avoid relocating communities wherever possible. In *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters* Jha et al. (2010), argue that, first, relocation may remove people from their source of livelihood, and second, without access to those livelihoods relocated people may either be forced into

unsustainable livelihoods or be forced to abandon the post-disaster housing. The intended inhabitants of the post-disaster houses have limited resources to construct houses on their previous sites, and therefore may be more disadvantaged than before the disaster occurred (Schilderman 2010).

Despite such guidelines, some communities in Aceh were either relocated to another area or relocated away from the sea (Sudiatmo et al. 2009). Participants' explained how they had refused to be relocated to another area in Aceh (Chapter 7). Headman (2005) attended a community meeting in early 2005 in the district of Lhok Nga close to the case study site. She writes (2005, p.17) 'there was no mistaking the intensity and urgency with which local representatives of displaced persons in Lhok Nga expressed a collective desire to return to rebuild their homes and communities'. A survey conducted by the United States Agency for International Development (USAID) and the International Organisation for Migration (IOM) (2005) of over 2100 participants found overwhelmingly people wanted to return to their original place to restart their livelihoods.

In my case study area place-based concerns were given substantive attention by one aid organisation and largely overlooked by the other. Although the distances were not great, participants living in houses supplied by World Vision felt they had been relocated because their houses had been moved inland from the sea and this had created challenges for their identity and livelihoods (Chapter 8). In contrast, participants described how Oxfam staff assisted them to advocate their need to remain living in their home place (Chapter 9). Based on the participants' experiences, Oxfam sought to find out what their priority was (remaining in their home place) and supported them to achieve this (by providing advocacy support) (Chapters 7 and 9).

A key finding of this research is that place-based relations are intrinsic to participants' everyday lives. Place-based relations affected the cultural and political life of the village, the participants' sense of personal and community identity, and the individual and collective capacities that they draw on in enacting their everyday lives. Such relations could be important for future programs designed to assist communities reduce their risk to disasters.

10.3 Re-establishing Home not Building Houses

For the participants, the single family, masonry post-disaster houses represented a suburban way of life (Chapter 7). Some participants viewed masonry houses as being contemporary. Yet for the participants the houses were not symbolic of home. When the participants in this case study drew houses, they represented their houses prior to the tsunami. The participants retained attachments to their pre-tsunami houses, as those were symbolic of their heritage and cultural legacy. The everyday living patterns of the inhabitants also embodied the norms and values of the pre-tsunami housing. Furthermore, in the adaptations made to post-disaster houses by inhabitants, it is possible to see the re-creation of those pre-tsunami living patterns. For example, the extension and decoration of the front terrace of the post-disaster houses is consistent with the decorative front veranda of the pre-tsunami houses. The adaptations that participants made to their houses were not casual or accidental; these were intentional changes to the house to suit their cultural identity and living patterns. In limited ways, participants were able to adapt the post-disaster houses to reflect their identities and norms (Chapter 8).

So why were single family, masonry houses built in Aceh? I argue that this decision was heavily related to the relationship between the image of that house and the concept of home. In the English language, 'home' is an emotive and powerful term. In *Home, a short history of an idea* Rybczynski (1986) explores the values and interpretations of this term and how these have been expressed through the internal spaces within houses. Rybczynski (1986, p.62), describing Dutch housing of the 1600s, wrote:

> "Home" brought together the meanings of house and of household, of dwelling and of refuge, of ownership and of affection. "Home" meant the house, but also everything that was in it and around it, as well as the people, and the sense of satisfaction and contentment that all these conveyed. You could walk out of the house, but you always returned home.

Home can be embodied in the built structure of a house, it can exist through the way people inhabit a house, or home can be experienced through the socio-cultural interactions which take place in and around the house. A house can be the basis for

home, or a house can exist within the landscape of home. The relationship between houses and home is not fixed; it is experienced and interpreted differently by different people around the world.

For many architectural anthropologists studying the house is a way into the society and culture of inhabitants (see for example Carsten and Hugh-Jones 1995 and Waterson 1990). In *The Living House: An Anthropology of Architecture in South-East Asia* Waterson (1990) uses extensive case study research of housing cultures to explore how houses are variously inhabited and understood. Waterson (1990, p.91) argues that '[h]uman beings use built forms as one means of creating for themselves a sense of place, and as such, the forms reflect the world views of their creators'. For Waterson (1990), houses are meaningful spaces which communicate values and understandings of the world. The house embodies the values and interpretations of those who designed and built it. It is an expression of beliefs and world order. For that reason Waterson (1990, xvii) writes that 'we can never assume built form to be free of symbolic meanings'. Waterson (1990, xv) states that 'architecture involves not just the provision of shelter from the elements, but the creation of a social and symbolic space-a space which both mirrors and moulds the world view of its creators and inhabitants'.

Although the terms 'house' and 'home' are different in English, there is one particular house design which is often symbolic of home. This house design is read as home even by people who have never lived in it (Rapoport 1969). The symbolic house-home is a single standing, masonry house with a pitched roof. In *house form and culture* Rapoport (1969) argues that the freestanding, nuclear family house is a powerful symbol of a dream house, an aesthetic aspiration, a representation of belonging. Rapoport (1969) points out that this is the house that children draw to represent home, even when they have grown up living in apartments. He argues that this house symbolises privacy, territorial ownership and independence. This house model is aspirational because of the values we imbue it with; values such as the independence of the nuclear family, the self-capacity to manage household affairs, and the sense of living in a contemporary way. Yet, as Rapoport (1969) argues, the power of this house lies in the visual symbolism we attach to it and not in how we inhabit it.

This physical image of home, and the values attached to it, is often presumed to be a shared universal aspiration. The symbolism of this iconic object masks the intrinsic relations which are required for people to feel at home. However, the values given to this house have very specific cultural roots. Rapoport (1969, p.49) writes that houses are designed as 'expressions of ideal environments reflecting different world views and ways of life … the sometimes subtle influence of these forces … make it easy to identify a house or city as belonging to a given culture or subculture'. The single family, masonry bungalows are thus representative of specific values and world views.

I argue that with the decision to build single family masonry bungalows in Aceh, the intention was not only to donate that house, but to provide a housing environment in which those affected by disaster could feel 'at home'. For many INGO staff, it is reasonable to assume that this house design was imbued with their (Western) conception of 'home', where houses represented a place which provides shelter and safety for the nuclear family, but from which most workplaces are separated.

However, the masonry bungalow as house-home did not symbolise home for the participants in Aceh (Chapter 8). King's (1984) *The Bungalow* provides a historical basis for the argument that this built form has particular roots in Brittish Colonial history, rather than being an abstract universal idea of home. King (1984) outlines how this house developed from Bengal architecture during Brittish Colonial rule in India and then spread contemporary England and America to become synonymous with suburban lifestyles.

For the participants, the term *pulang* (meaning to go home) means more than returning to a physical house, it means returning to a significant place and the community who lives there. Houses could be important elements within the participants' landscape of home, but the walls of the house do not bound home. A sense of home exists in the Acehnese language spoken by the community, the food that is shared and the family histories in that place.

Post-disaster aid programs in Aceh did make efforts to preserve or re-create the traditional buildings of those affected by the tsunami through museums or monuments. However, housing traditions are not simply historic, but are part of

living housing culture. The participants' pre-tsunami housing were interpretations of Acehnese housing culture. They did not live in one form of a symbolic 'Acehnese house' prior to the tsunami, their housing was an adaptation of those housing norms (Chapter 3). By choosing to build single masonry bungalows, aid organisations transformed the housing landscape in the case study village. Both aesthetically and in practice the houses in the case study community are not symbolic of inhabitants' housing culture. Instead for those who inhabit them they represent generous aid from foreigners. The transformation of their home was not simply reflected in the house design, but also related to the settlement layout and the positioning of their settlement in the landscape.

Details of housing design such as ventilation in areas for preparing and serving food were important to participants, as was, the quality and ease of cleaning the floors, because of the time spent sitting on the floor. These details appear small in the context of challenges in the post-disaster setting, yet they affect the long term habitability of the houses. Without awareness of the ways in which people live and inhabit spaces, subtle ways of expressing identity and belonging through built structures may be missed by outsiders. These differences may be subtle to external eyes, but be of vital importance for the inhabitants.

Post-disaster housing organisations must engage with communities to understand what home means to them, and then utilise this resource to inform housing design. Rather than presenting those affected by disaster with completed house designs, the role of aid organisations and governments should be to support the inhabitants to articulate their own needs and priorities. I will expand on how this could be achieved in the following sections.

10.4 Creating Adaptable Houses

Participant's living spaces are not contained within four walls of a house, but rather, their living spaces include terraces, *balai* (wooden platforms), cafes, *kedai* (stalls) and *Musholla* (wooden prayer houses) which are at varying distances from the house itself. Participants have an incremental building culture, whereby they start with a small hut that is expanded and adapted as their household changes and when they have resources. In this cultural context, houses are dynamic. Houses change as

generations grow and change. The spaces inside the house are adapted and transformed for different needs at different times of the day or year. The house is not a fixed entity, but a living system of built spaces.

The participants require privacy for bathrooms, yet in other spaces inside the house participants commented on the need for spaciousness and ventilation to accommodate guests, for cooking and food preparation activities and to provide a cool internal environment for sleeping. The small plot sizes limited the participants' options to adapt their houses, although households had enclosed the rear terrace or built a room at the back of the house to be used as a kitchen.

Prior to designing housing or settlements, or engaging local communities, aid organisations must ask themselves: are the resources available to re-build complete houses which will not need adaptation to be habitable? In Aceh, where the financial support for aid programs was unprecedented, aid organisations did not build 'complete' houses – post-disaster houses built in the case study required adaptations such as terraces and kitchens. If 'complete' houses are unattainable then it seems advisable for aid organisations to consider how the inhabitants will need to adapt their houses and what such adaptations might mean for the structural integrity of the buildings. In some instances, adaptations to post-disaster houses have weakened their structural strength, rendering the initial efforts to build earthquake-safe houses obsolete (Oliver 1987). If post-disaster houses are to be built to allow for the inhabitants to adapt them, then the process of housing design needs to consider what materials are available to the inhabitants, their financial capacity and the building skills available to them.

While neither INGO in the case-study sought to engage participants in housing design or to explicitly enable a process of housing adaptation, the differences between the outcomes of the Oxfam and World Vision programs, as experienced by participants, reveal the potential for this process to improve their recovery from disaster. Oxfam staff in Lhok Seudue sought to teach people how to rebuild for quality and strength and the importance of that for their own future safety. Oxfam staff insisted that poor quality houses were taken down and rebuilt which no doubt cost time, materials and finances, yet this approach continues to benefit the inhabitants who understand how their house was built and have confidence in their

strength. In contrast, World Vision relied on the expertise of the building contractors. These two approaches had different outcomes for the inhabitants' sense of risk during earthquakes (Chapter 9). Yet both house programs offer limited opportunity for transformation due to the small plot size and the cost of materials. A key finding of my study is that there is opportunity to improve the outcomes of post-disaster housing if the design is adaptable to their needs. However, this in turn implies that local people need to be actively involved in the design process.

If we take the approach that the aid house was a 'core' house rather than a complete house, then the options for how it is constructed change. Consider, for example, if the core house consisted of a quality floor slab larger than 36m^2, with a quality roof and columns to support it, a well, sanitation and electricity connection. If the participants are to have an overseeing rather than a construction role, then they must work closely with the INGO staff to ensure building quality. An enclosed bathroom would be necessary. Semi-private areas such as terraces are important living spaces. Davis (1981) and Duyne Barenstein and Pittet (2007) argue that in some locations verandas are used in the same way that a walled room is used in a Western country. Then the INGO and participants need to consider options for enclosing the external walls of the house. Importantly, if are insufficient funds for full masonry external walls, as is likely, then there is the option of quality semi-permanent walls. The key advantage of this approach is that when future inhabitants have funds they also have the capacity to understand how to build for earthquake resistance. It is easier and cheaper to remove part of a semi-permanent wall to make a doorway or extend the house than it would be with a full masonry wall.

Aubrey (2010), following Turner's (1976) lead, describes housing as a process rather than a product. Aubrey (2010) is writing about the approach to post-disaster housing in Kenya, when lack of funds meant permanent housing was initially not possible. Therefore INGOs chose a process based approach to housing that prioritised a house design which could be quickly constructed within 2-3 days by a household or several individuals. These were called transitional shelters because they could be 'upscaled' by either the household or even the INGO if funding became available. Importantly, the shelters allowed farmers and their households to return to farming land during planting season. Aubrey (2010) writes that these houses were upgraded as intended

by households according to the materials available to them. If quality materials are used in transitional shelters then there is the potential for these materials to be used in adapting the permanent houses. Transitional shelters must be integrated into the phased reconstruction of post-disaster houses to allow households greater flexibility to create additional rooms, larger rooms or work spaces.

10.5 Integrating Livelihoods, Landscape and Houses

While participants appreciated the gift of the post-disaster houses, they pose challenges for their rural livelihoods. The key sources of these challenges were the small plot sizes and change in land-use due to houses being relocated onto farming land (Chapter 7). For those living in the houses built by World Vision at a distance from the sea and main road, livelihoods such as stores or fishing-related activities were made difficult due to the need to balance household and livelihood tasks when livelihoods were far from the houses, particularly for those without the financial capacity or resources to create alternative livelihoods. The physical separation of livelihood and housing needs in the post-disaster setting is at odds with the culturally inherent relationships between these needs in this place. The only people who intimately understand the complexity of housing and livelihood needs are the people themselves, therefore their voices, priorities and opinions need to be at the centre of decisions regarding house and settlement location.

Participants discussed how the post-disaster houses transformed the village from a rural settlement to a suburban complex (Chapter 7). Waterson (1990, p.40-41) describes several examples of government attempts to ‘modernise’ or ‘improve’ rural communities through re-housing. Waterson (1990) points to examples where cultures have been lost, when people from unique cultures are re-housed in uniform housing, undermining their distinctiveness from the dominant culture. Waterson (1990) notes that this process is usually said to be in the inhabitants best interests, for their health or development, however it has resulted in the loss of shared rituals, norms, and even religions. Duyne Barenstein and Pittet (2007) explain how in Tamil Nadu in India the tsunami damage to some housing was seen as an opportunity by the Indian Government to ‘modernise’ housing, and to promote a particular type of housing design, without consultation with local populations. In Tamil Nadu verandas were

important because of the climate (need for ventilation) and for socio-cultural reasons (where people spend the majority of their time). Yet the rebuilt brick houses lacked verandas. Unfortunately the Indian Government and aid agencies prioritised their own opinions of good quality housing over those of the locals in Tamil Nadu, resulting in uncomfortable and inappropriate housing (Duyne Barenstein and Pittet, 2007). The Tamil Nadu example shows the importance of learning from communities about what types of housing is suitable for their location (Lang, 2008). New living patterns are imposed on rural communities through changing housing and settlements. Due to the physical destruction of the tsunami, those outside the local context fail to understand additional losses incurred by not rebuilding housing in keeping with the inhabitants' local cultures. The physical destruction in the aftermath of the disaster is conceived as a blank slate for rebuilding, but it is not. It is a location full of cultural meaning and practical knowledge. The destructive force of the tsunami is extended from the physical to the social and cultural destruction of communities, ways of life and belief systems.

The challenges discussed in Chapter 7 highlight the need for post-disaster housing programs to be integrated with other recovery programs such as those targeting livelihood recovery and environmental sustainability. Aid programs which are focussed on the integration of needs offer an alternative approach by utilising the existing capacitates and resources of those affected by disaster. For example, livelihood programs in Aceh which involved local communities were successful because their donations were appropriate for the context, such as fishing aid that sought input from the *Panglima Loat* (the traditional organisation for fishers), or agricultural aid programs that sought advice from local NGOs or community groups (McCarthy 2014; Thorburn 2009). McCarthy's (2014) study of post-disaster livelihood programs in Aceh recommends a longer term approach to livelihood planning which takes account of people's changing needs over time. McCarthy (2014) found that some participants were only ready to resume their pre-tsunami livelihood eight years after the disaster had occurred. However, as participants in this research noted, this did not mean that people were idle for eight years, rather that had been engaged in alternative livelihoods.

Lizarralde's study of rural reconstruction following the 1999 earthquake in Columbia is an example of the potential benefits of a coordinated disaster response, which draws on the existing resources of the local people. Lizarralde (2010, p.191) argues against the dominant approach to post-disaster reconstruction, which he calls 'the traditional concentrated approach to housing', centres power on building contractors who are responsible for developing a 'housing solution'. Lizarralde (2010, p.192) writes:

> Too often the traditional concentrated approach to housing delivery seeks to design a unique housing model that responds, as well as it is reasonably possible, to the problems that have been identified, considering the limited information that is available and constrained budgets. Once this model is identified, contractors or project teams proceed to build it repetitively so it can be offered to as many beneficiaries (or disaster-affected residents) as resources allow.

In contrast, the approach employed in Columbia drew on the existing networks and established working relationships of coffee growers to coordinate, share information and advice (Lizarralde 2010). This experience was unique because the needs of those affected were not separated into spheres of action, such as livelihoods, housing, water and sanitation and so forth (Chapter 5). Instead the coffee farmers were considered to be best placed to understand how those needs were integrated, and they were given the opportunity to use their own networks and resources to facilitate the construction of their own houses. In the conclusion to *Building Back Better: Delivering people-centred housing reconstruction at scale* Lyons et al. (2010b, p.351) discuss the lessons learnt in Lizarralde's (2010) study:

> [this case] calls into question the rather formulaic and little questioned requirement for specialised, sector-specific reconstruction…the fact that the driving organisation behind this process was in fact based in livelihood activities, reinforces the interdependence and potential benefits to be gained from an integrated approach to reconstruction.

In disaster practice, the separation of housing from other spheres such as livelihood recovery, agriculture and services such as water and sanitation is artificial because

for the participants these are inherently related in practice. There are opportunities for future post-disaster programs to be designed to holistically address the related needs of those affected.

10.6 Empowering Community Participation in Reconstruction

As shown in Chapter 9, participants experienced two clearly different reconstruction processes which had different outcomes for their sense of security in the house and their sense of capacity to manage their own affairs. One group of participants had strong, ongoing leadership capacity. The importance of this leadership is reflected in a study of 18 villages across the districts of Aceh Barat, Aceh Jaya and Aceh Besar, which found that 'local leadership presents as the key determining factor in differentiating more successful from less successful village recovery' (Thorburn 2007, p.viii). In the *dusun* of Lhok Seudeu, participants thought that their own capacity was supported by the INGO staff who provided them with advocacy support and lived in the community in order to directly oversee the construction quality of their houses. The other group of participants, in Layeun 1-3, had disrupted leadership after the tsunami and their interaction with the INGO was limited to meetings between the village leaders and the INGO staff.

These two INGOs had different working relationships with the communities yet neither involved the communities in the design of the houses. Inhabitants were presented with completed house plans and asked to choose one of the three house designs to be built uniformly for their residents. A participatory process for land mapping was unavoidable because of the difficulty in identifying land boundaries and land ownership following the tsunami. However, this participatory process was not used for village planning or housing design. There was a missed opportunity to map the relations between housing and livelihood spaces. As this community did not have experience in the village planning process, leadership from the INGOs was needed to facilitate equitable participation and to share knowledge about past experiences and case studies. It is not enough for the INGO to hold a community meeting. They must ask questions and prompt discussion among the community members. It is not clear why the community was not involved in the house design and planning stages, given that the rhetoric surrounding this aid effort was focused

on consultation (Chapter 5). In summarising village leaders assessments of housing projects in Aceh, Thorburn (2007, p.xiii) reported that 'the small number of temporary or permanent housing construction programs that engaged local community members in planning and construction proceeded more quickly and experienced fewer complications than projects [which were delivered without community participation]'. Although the BRR, the local authority overseeing reconstruction, advocated a 'people-centred' approach to reconstruction this was limited in this case study (Chapter 5).

The lack of community participation in house design is interesting, given that there are examples of participatory approaches from other disaster situations. Qazi's (2010) study of rural owner-driven reconstruction in Pakistan following the 2005 earthquake highlights the potential benefits of communities taking centre stage in the reconstruction effort. In this instance rural owners were engaged in reconstructing transitional shelters and the approach to rural housing in Pakistan was flexible to accommodate local building technologies. In another program in El Salvador, communities were given the central role of designing the houses through community workshops, overseeing the reconstruction completed by construction workers and participating in building sections of the house themselves (Calvo et al., 2010). The two Red Cross organisations involved in this reconstruction effort provided staff to oversee building quality of the contractors and households as well as providing skills training to the householders. Calvo et al. (2010) list several benefits of this approach including increasing the communities' self-capacity and organisation, improving women's participation rates in both community leadership and in construction tasks, improving the skills and livelihood options of the community members. As Calvo et al. (2010) identify, many women had household businesses that they ran from the rebuilt houses. Teng Yan Fang and Yusuf's (2014) research with women in Aceh found that the process of working together and talking about shared experiences can in itself aid recovery.

It is important to note that participation in the housing process does not necessarily mean that the intended inhabitants build their own houses. In some situations those affected by disaster are unable to rebuild their houses because they are busy trying to restart their livelihoods, they were injured in the disaster, or because they are busy

caring for children, elderly relatives or those injured in the disaster. The inhabitants may also lack the skills to rebuild, particularly if their usual building materials are scarce. The inhabitants may be capable of some, but not all, reconstruction tasks. Alternatively they may require new skills to be involved in the rebuilding effort.

In *Safer Homes, Stronger Communities: A Handbook for Reconstructing After a Natural Disaster* Jha et al. (2010, p.7) argue '[i]t can't be emphasised strongly enough that the affected population should be at the centre of the reconstruction process and should have a preferential right to make the decisions that will affect their lives'. Jha et al. (2010, p.9) go on to explain that 'people affected by disaster are not victims; they are the first responders during an emergency and the most critical partners in reconstruction, undertaking the majority of the work on their own recovery'. Michael Lyons, writing in *Build Back Better*, pushes this argument further. Lyons (2010a) argues that participation is central to empowering those affected and improving their resilience. He also relates participation to long-term building quality: 'Participation is also more likely to result in the production of a building stock which is technically robust in the face of likely disasters, yet sufficiently integrated into local building practice that technical improvements are likely to be sustained in the long term and integrated into future adaptations and new construction' (Lyons 2010a, p.39). Thus, Lyons links people's roles in the reconstruction process both to their personal, and community, capacity and to the lessons they learn which can be reapplied in future building work. Lyons (2010a) strongly disputes the argument that participation costs (or wastes) time and resources that aid organisations do not have. The physical process of rebuilding housing can also be psychologically important to peoples' recovery after disasters (Duyne Barenstein and Pittet, 2007).

Kreimer (1980) argues that post-disaster housing is often conceived or understood as happening independently of pre-existing conditions but rather than being distinct it is a part of the ongoing housing situation. Schilderman (2010), drawing on Kreimer's argument, also agrees that post-disaster housing needs do not exist in a vacuum, but rather are part of ongoing housing culture. Post-disaster houses are not built on a blank slate; they are built in places of significance. In Aceh, as in other disaster situations, there was an emphasis on the need to build housing quickly. Such pressure

prioritises short term needs over long term recovery. In the rush to build quickly other priorities can be devalued. The idea behind building quickly is that for people's mental recovery it is important that they resume day to day activities as soon as possible. The key term here is 'resume', because if housing is rushed to the extent that poor quality or inappropriate housing is built then people cannot resume their lives, such housing may make day to day living difficult. Policies which emphasise a fast return to the status quo ignore the need to reduce inequalities and vulnerability and can increase stress and exacerbate inequalities (Bolin, 1985; Régnier et al., 2008).

Research from outside the case study area has shown that it is not more time consuming to involve people in aid programs (Lyons et al. 2010). Participants need a more active role in the aid process; Oxfam's focus on advocacy was beneficial for the participants. A central concern for participants was the confusion surrounding what was available, what was possible and what their rights and responsibilities were. There is a huge scope for knowledge sharing among communities affected by disaster, and for those who have experienced disaster aid to assist and share their knowledge following a disaster with the communities affected. Those who have experienced post-disaster housing are best able to share their experiences with other communities.

10.7 Towards a Relational Approach to Post-Disaster Houses

In Chapter 2, I identified three dominant approaches to disasters; technocratic, vulnerability and community resilience. I argued that these approaches are illustrative of different understandings of the causes of disasters and the value of pre-emptive programs to reduce disaster risks. In Chapter 5, I discussed how the language of community participation was used to frame the post-disaster response in Aceh, by both the BRR and INGOs. Participation was enacted in the process of village mapping which involved members of the community. However, the house design, settlement planning and construction processes involved limited opportunity for community participation. Based on participants' descriptions, one INGO initially employed a technocratic approach to their post-disaster housing process in which houses were donated to the community without debate about the form of those

houses. The other INGO employed a resilience approach by facilitating community engagement both in the physical rebuilding process and by being available to discuss the inhabitants' questions or concerns, the INGO staff provided advocacy support for the community and strove to teach the intended inhabitants how to rebuild for earthquake resistance of the houses.

From participants' interviews, there is little evidence that either INGO addressed the wide range of existing vulnerabilities within the community, such as the economic stability of people who are unable to work such as the elderly, injured or disabled. Donations of material support such as fishing boats and cafes were provided and were valuable to the community, but they did not address the individual needs of disadvantaged people.

The post-disaster housing programs did not address the vulnerabilities of those who do not have an aid house, such as young couples who were unmarried at the time houses were allocated or couples who divorce. These people have limited housing options. The difficulty of adapting the masonry houses, and the small plot sizes also reduce the options for poor members of the community to stay with extended families. This is particularly an issue for single women who do not have their own house, unlike single men who are able to stay in community buildings such as *Musholla*. Finally, the house designs, plot sizes and settlement layouts did not consider the ways in which economic vulnerability had given rise to vital informal economic practices. The post-tsunami housing made generating income from small home-based businesses more difficult than before the tsunami. The distance between houses built by World Vision and the livelihood sites of women also made it difficult for women with young children to work outside the house.

Table 10.1 provides an assessment of the extent to which the three dominant approaches identified in Chapter 2 had the capacity to address the five characteristics of the relational approach outlined in this chapter. I undertake this assessment in relation to the case study findings and compare this with an assessment of the theoretical potential of these approaches more generally. For the extent to which the technocratic and resilience approaches met participants' needs, I employ an assessment scale of 'not at all', 'limited extent', 'moderate extent' and 'fully met'. 'N/A' (not applicable) is used to indicate that the vulnerability approach was not

evident in any substantive form in the case study. For the potential of each approach to meet participants' needs for post-disaster housing, I employ an assessment scale of 'none', 'limited', 'medium' and 'high'. Implicit in the table is the argument above that a relational approach is defined as having high capacity in all five characteristics. The judgements made in Table 10.1 are based on a synthesis of evidence in Chapters 6 to 9 (for actual case performance) and Chapter 2 (for potential performance).

I conclude that the technocratic approach did not support local housing relationships in the case study, and has little or no potential to do so. The vulnerability approach has some capacity to address needs associated with creating adaptable houses; integrating livelihoods, landscapes and houses; and empowering community participation; but has little to offer in relation to the other two needs. The community resilience approach met participants' needs to a limited extent, and with more effective deployment could have made a more significant contribution. However, while having the most potential of the three approaches, even with optimum implementation community resilience has limited capacity to meet needs associated with respecting sense of place and re-establishing home. The following, final chapter distils these findings and points to opportunities for researchers, practitioners and local people to adopt a more relational approach to post-disaster housing.

Table 10.1 Actual and Potential Performance of Approaches to Post-Disaster Housing in Meeting Participants' Needs

Research findings of participants' needs for post-disaster housing ⇨	Respecting Sense of Place		Re-establishing Home		Creating Adaptable Houses		Integrating Livelihoods, Landscapes and Houses		Empowering Community Participation	
Approaches to post-disaster housing ⇩	Extent met in case study due to approach	Potential to meet need	Extent met in case study due to approach	Potential to meet need	Extent met in case study due to approach	Potential to meet need	Extent met in case study due to approach	Potential to meet need	Extent met in case study due to approach	Potential to meet need
Technocratic	Not at all	None	Not at all	None	Not at all	Medium	Not at all	None	Not at all	None
Vulnerability	N/A	None	N/A	None	N/A	Medium	N/A	Medium	N/A	Medium
Community Resilience	Limited	Limited	Not at all	Limited	Not at all	Medium	Limited	High	Limited	Medium

11. Conclusion

The primary goal of this research was to understand the lived experience of post-disaster housing in one coastal village in Aceh, Indonesia. I employed a multi-method qualitative research design which included in-depth interviews, in combination with photo-elicitation and drawing interviews in which participants sketched their pre and post- disaster housing experiences. These techniques elicited stories of participants' lives before the tsunami, of the disaster and the subsequent emergency, of the process of reconstruction and inhabiting post-disaster houses. Detailed thematic analysis of 47 interview transcripts yielded the insights reported in Chapters 6 to 9 and summarised below in Section 11.1. These findings led me to identify five characteristics of an approach to post-disaster houses that would have met the needs of the inhabitants of the case study village; I have called this a relational approach.

Within current post-disaster response practices I have identified three dominant approaches to post-disaster reconstruction; technocratic, vulnerability and community resilience (see Chapter 2). In any one instance, a combination of these three elements may be present. In Chapter 10, I question the capacity of these three approaches to create post-disaster housing programs that suit the local housing ecology of those affected by disaster. Thus the key contribution of this study is to identify the need for a fourth approach to post-disaster reconstruction that can compliment other approaches. I argue that housing, as experienced by the participants is embedded in the socio-cultural, environmental, political and economic context of its inhabitants. In Section 11.2, I outline how the research findings can be used to inform future post-disaster programs for researchers, policy makers and those affected by disasters in the future.

11.1 Core Findings

Each of these findings has implications for pre-emptive disaster planning and post-disaster practice. In this thesis I have argued inductively, based on qualitative fieldwork, for a relational approach to post-disaster houses. My research has five key findings:

1) **Place**. Participants had a strong, ongoing attachment to their coastal home; an embedded sense of place. Re-establishing their everyday practices was a source of strength for participants. This finding supports efforts to ensure that housing reconstruction takes place *in-situ* whenever possible.
2) **Home**: The participants' sense of home, of belonging in place, was not lost in the tsunami. Their sense of home oriented and inspired their decisions and actions and was a source of social, cultural and political capacity. Sense of home arose through relations with their local environment, their families and communities, their livelihoods and their identity as residents of this coastal village. I argue that home and place relations can be a source of strength and resilience for local communities that can be drawn upon during the reconstruction process.
3) **Housing Adaptability**. Participants both adapted to their new housing, and adapted this housing to suit their existing housing relations. However, the standard four rooms provided (two bedrooms, living space and bathroom) and the small plot sizes constrained their options for adapting housing. The inflexibility of this housing had significant implications for family and social relations in the community. Housing culture is not simply a historic tradition, but rather a living and dynamic expression of cultural norms, values and place-based identities. My research indicates the need for adaptable forms of post-disaster housing. This adaptability requires that houses be planned and designed with the active input of intended inhabitants, and that the houses themselves be amenable to subsequent adaptation by inhabitants as the extended process of recovery unfolds and their needs change.
4) **Houses and Livelihoods**. The re-design and relocation of one group of post-disaster houses challenged participants' livelihood practices, due both to their re-location away from the coast and to the small sizes of plots. My research supports integrated approaches to post-disaster aid that recognise the interdependence of housing and livelihood needs. An integrated approach must recognise that households may have multiple, diverse livelihood streams and informal income sources, and pay particular attention to vulnerable groups within the community.
5) **Leadership Capacity and Community Participation**. The personal capacities of village leaders played a significant role in determining the extent

to which villagers were empowered in the reconstruction progress as well as the construction quality of the resulting houses. Increased local participation in housing reconstruction is likely to ensure that intrinsic relationships between everyday living patterns, livelihood activities and built structures are re-established. Furthermore, increased participation strengthens the long-term capacity of both leaders and others within the community.

11.2 Acting on a Relational Approach

For researchers - my research offers a critical contribution to the field of post-disaster research by focusing primarily on the experiences, choices and decisions of those affected by the disaster, in contrast to the dominant trend in post-disaster research focusing on the policies, approaches, finances and results of post-disaster agencies. I also demonstrate the benefits to be gained from greater collaboration between housing research and post-disaster research. While I identify the need for a relational approach to post-disaster housing, further research is necessary in partnership with local communities, governments and INGOs involving multiple and diverse case studies.

As researchers we are trained to understand multiple competing views and to articulate clear arguments. Where we can be of most benefit for affected communities is in hearing their needs, in understanding the socio-cultural, political, logistical and local complexities of those needs and in facilitating the discussion with the aid organisations that are there to assist them. Based on my experiences in the field and my research findings I would support future research that employs a participatory action research method. Participatory action research could provide a useful and necessary opportunity for learning from and working directly with communities, both those engaged in pre-disaster planning and in a post-disaster situation. The participants in my research lacked accessible information about the aid programs that were available to them as well as information about programs that had been completed elsewhere. Due to this gap they were unable to make informed choices. A participatory action research method could involve sharing case studies and examples with community groups.

In this thesis, I have argued against the dominant representation of housing as a universal technology and for a new, relational approach to post-disaster houses. This approach empowers intended inhabitants to determine their own housing pathway. It draws on the existing body of knowledge and research about how people inhabit houses and their lived post-disaster experiences. This approach also seeks to be as adaptable as possible to local environmental, cultural and political contexts, and to recognise the integrated nature of the many different needs that housing is required to meet.

When my field research began participants had been living in post-disaster houses for between 2-3 years. It would be highly valuable to revisit this case study in the future to examine the medium to long-term implications of these houses; how they have been adapted, how the occupancy of the houses has changed and why, and what types of new housing have been built. It will also be useful to understand what new capacities and vulnerabilities have developed and what new needs have emerged.

For policy makers (governments and INGOs) - my research strongly supports the need for greater participation by those affected by the disasters and greater sharing of knowledge, training and expertise in a collaborative manner between those affected by the disaster and aid organisations. To be effective this participation needs to be based on relations of trust developed out of the active attempt of post-disaster agencies to adapt to the local context in which they are working. In Aceh, its geographic and political isolation prior to the tsunami, and the widespread destructive force of the waves, meant much of its built environment and material records were non-existent. Without engaging with communities it is difficult to understand what was lost in the tsunami, and the effects of building back differently. That such learning was not done, is testament to the lack of awareness and knowledge about differences between housing cultures.

Housing needs to be understood as a place-specific form of cultural and political practice, rather than as a universal physical object. Integrated approaches to housing and livelihood recovery can be achieved by establishing relations of trust with local people, and contextualising their processes within local conditions, working proactively with local leaders.

For those affected by disasters - my research provides an in-depth qualitative study of the experience of inhabiting post-disaster housing. The findings document the problems that arise when inhabitants are not able to participate in the post-disaster housing process and may be a resource for those advocating for participatory approaches to post-disaster housing reconstruction. The research findings can be used to develop more comprehensive and detailed policies which can address the needs of affected communities in preparation for future disasters. I have advocated for action research which can empower communities and facilitate their participation in post-disaster recovery programs.

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Appendix 1: Information Sheets (English and Indonesian)

Catherine Elliott

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Email: elliottc@utas.edu.au

SCHOOL OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

UTAS

UNIVERSITY OF TASMANIA

You are invited to participate in a research project about…

Post-Disaster Housing In Aceh, Indonesia

Evie and Catherine

The project is run by Elaine Stratford (Project Leader), Stewart Williams (Project Leader), Catherine Elliott (Project Researcher) and Evie Susianti (Research Assistant). Catherine is a PhD (S3) student in the School of Geography and Environmental Studies at the University of Tasmania, Australia.

1.What is the project about?

The aim of the project is to learn about people's experiences in post-disaster housing in Aceh. What do you think about your new house, how have you changed it, how is it different from your pre-tsunami house, how would you like to change it in the future?

2. What are the benefits of this project?

In general this project may be useful to you, your community, other Acehnese or people in another country when building sustainable housing. Catherine hopes that information from this research can be published and be useful for people or NGOs building housing.

Specifically, this project will be useful for Catherine's thesis. She hopes that information will be used by those building sustainable post-disaster housing in the future.

3. Why does Catherine want to interview you?

You are invited to participate in this project because you live in a house built by an NGO after the 2004 Asian Tsunami.

4. What does participating in this project involve?

Participating in this study involves talking to Catherine about your house, where you have lived in the past and where you would like to live in the future.

During those conversations you may be asked about your experiences after the tsunami and where you lived before moving into your current house.

Those meetings may be about 1 hour. If possible Catherine may be interested in talking to you several times.

You do not have to be involved in this project. You may say no at any time, you may stop a conversation at any time. We respect your right to decline and you do not need to explain why you wish to decline. It is important that you understand that your involvement is this study is voluntary. There will be no consequences if you decide not to participate.

All information will be confidential, and your name will not be used in any publication arising out of the research unless you agree to it. The information you share will not be repeated to anyone else in your community. All of the research will be kept in a locked cabinet in the office of Geography and Environmental Studies, at the University of Tasmania, Australia.

5. Are there any possible risks from participation in this study?

There are no specific risks with participation in this study. However, if you become distressed or uncomfortable please ask to stop the interview. You may stop the interview at any time. You do not have to participate if you are not comfortable talking with Catherine. There will be no negative consequences from stopping the interview.

6. What if you have questions about this research?

If you would like to discuss any aspect of this study please feel free to contact either Catherine at her office on ph +62(0)651 7552362. Later Catherine will return to your village to discuss and give you a summary of the findings. You are welcome to contact Catherine or another researcher at that time to discuss any issue relating to the research project.

This study has been approved by the Tasmanian Social Science Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study should contact the Executive Officer of the HREC (Tasmania) Network on +613 6226 7479 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. You will need to quote H11256.

Thank you for taking the time to read about this project.

Catherine Elliott

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SCHOOL OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

UTAS

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Catherine mengundang Anda untuk berpartisipasi dalam penelitian tentang…

Pembangunan Rumah Sesudah Bencana di Aceh, Indonesia

Evie dan Catherine

Penelitian ini dilakukan oleh Elaine Stratford (Kepala Team), Stewart Williams (Kepala Team), Catherine Elliott (Peneliti) dan Evie Susianti (Asisten Peneliti). Catherine adalah mahasiswa S3 dari Fakultas Geografi dan Studi Linkungan di Universitas Tasmania di Australi.

1.Penelitian ini tentang apa?

Penelitian ini tentang pengalaman orang Aceh dalam rumah baru di Aceh, rumah yang di bangun sesudah bencana pada tahun 2004. Bagaimana menurut anda tentang rumah baru, bagaimana merubah rumah ini, bagaimana kondisinya, di bandingkan rumah sebelumnya, dan bagaimana menurut anda apakah rumah ini perlu dirubah?

2.Apakah tujuan penelitian ini?

Secara umum penelitian ini akan berguna untuk Anda, kampongnya atau orang lain di Aceh atau orang di negara lain untuk membangun rumah yang cocok. Catherine harap informasi dari penelitian ini bisa dipublikasikan, dan dokumentasi bagi lembaga-lembaga atau LSM yang membutuhkannya.

Secara khususnya penelitian ini akan berguna bagi tesis Catherine. Dia berharap informasi ini akan berguna untuk seseorang atau LSM yang mau membangun rumah sesudah bencana yang cocok dan baik untuk masa mendatang.

3. Kenapa Catherine mau wawancara anda?

Catherine mau wawancara orang Aceh yang tinggal di rumah yang dibangun oleh LSM sesudah bencana di tahun 2004.

4. Bagaimana partisipasi orang Aceh dengan penelitian ini?

Partisipasi orang Aceh dalam penelitian ini adalah wawancara dengan Catherine Elliott tentang rumah baru, rumah lama dan harapan untuk masa depan mengenai rumah tersebut.

Catherine mau berkunjung ke rumahnya dan berbicara dengan anda tentang kondisi rumah itu. Dia juga ingin berfoto dan membuat dokumentasi tentang rumah tersebut. Selama wawancara, dia akan bertanya beberapa pertanyaan tentang pengalaman anda sesudah tsunami dan tempat tinggal anda sebelum pindah ke rumah ini.

Wawancara itu mungkin lebih kurang 1 jam. Kalau bisa Catherine akan kembali ke kampong ini dan berbicara dengan anda lebih dari satu kali.

Anda tidak harus ikut penelitian ini. Kalau anda tidak suka anda bisa berhenti wawancara kapan saja. Kami menghormati anda untuk berhenti wawancara dan anda tidak harus menjelaskan alasan anda. Sangat penting anda mengerti bahwa anda tidak harus ikut penelitian ini. Tidak ada akibatnya kalau anda tidak mau ikut.

Semua informasi ini adalah rahasia, dan bila anda suka, nama anda akan dimuat didalam penelitian ini. Sebaliknya, jika anda tidak suka maka informasi ini adalah rahasia. Catherine tidak akan mempublikasikan semua informasi ini ke orang lain di kampong ini. Penelitian akan menimpan di lemari yang terkunci di kantor di Fakultas Geografi dan Studi Lingkungan di Universitas Tasmania di Australi.

5. Apakan ada bahaya dari ikut penelitian ini?

Tidak ada bahaya kecuali untuk berpartisipasi dalam penelitian ini. Boleh berhenti wawancara kapan saja. Anda tidak harus berpartisipasi kalau merasa kurang nyaman berbicara dengan Catherine. Tidak ada akibatnya kalau anda tidak mau ikut.

6. Bagimana kalau anda punya pertanyaan tentang penelitian ini?

Kalau anda mau berbicara tentang penelitian ini silahkan kontak Catherine, nomor teleponnya +62(0)651 7552362. Nanti Catherine akan kembali ke kampong ini untuk berbicara tentang penelitian ini dan dia akan memberi tulisan informasi tentang penelitian ini.

Penelitian ini sudah persetujuan oleh Komite untuk Ilmu Sosial Etika Penelitian Tasmania. Kalau Anda punya kepentingan atau keluhan tentang penelitian ini tolong kontak Kepala Team Komite Etika lewat email human.ethics@utas.edu.au, dan menulis nomor ini H11256. Kepala Team adalah orang yang akan menerima keluhan tentang penelitian.

Kalau ada hal yang tidak mengerti Catherine akan senang bila anda bertanya kepadanya.

Terima kasih banyak untuk membacca tentang penelitian ini.

Appendix 2: Interview Guides (English and Indonesian)

Post-Disaster Housing in Aceh, Indonesia

1. Verbal introduction using the Information Letter (see attached Information Letter)

If a translator is present:

I would like to introduce [insert name]. She/he is from [insert place name] and works in [insert work place]. Today she/he will be assisting with translating. Are you comfortable if [insert name] helps to translate our interview?

Provided that verbal consent is given to begin the interview the interview dialogue will be based on the following questions.

2. Introductory questions:

What is your name?

Is this your house?

Who do you live here with?

How long have you lived in this house?

3. Comparing experiences of current and pre-tsunami locations:

Where is the site of your pre-tsunami house?

How long had you lived there for?/Had you lived there your whole life?/ Have you lived in a house anywhere else?

What was it like to live in that place: What occupations did your family members have?/How close were you to your workplace, other family members houses, the balae or mosque?

4. Please describe your pre-tsunami house/s:

What type of house was it: structure, layout, size, materials, age…?

Who built it?

How long did it take to build?

What changes were made to it while you lived there?

Who did you live with?

How comfortable/uncomfortable was that house? What did you like/dislike about that house?

How was that house affected by earthquakes and floods?

Were other houses similar or different? In what ways were they similar or different?

How near/far away were they?

5. Please describe living in your current house:

What do you find comfortable/uncomfortable? What did you like/dislike about this house?

What have you changed? What would you like to change?

How is this house different to houses you have experienced in the past?

What type of house is it: structure, layout, size, materials, age…?

Who built it?

How long did it take to build?

Who do you live with?

What changes would you like to make to the house?

What other post-disaster housing projects have you seen?

Which housing projects do you like/dislike and why?

How did you come to have this house?

6. Are you comfortable talking about your experiences after the 2004 tsunami? If you are…

What sort of damage happened to your house after the earthquake in 2004? What happened after the tsunami wave arrived?

Where were you when it happened, where did you go after the tsunami occurred?

How long did you live there for? What were your experiences in that place?

Why and how did you move following the tsunami disaster? Where did you stay?

Who did you stay with? What were your experiences in that place?

Which NGOs do you remember meeting? How did you find out about this housing project? What did you know about this housing project before the construction work started? Were you able to visit the construction site during the reconstruction? When/how/why?

What were your thoughts of the housing during the construction? Were you able to talk with the construction contractors or the NGO? Who decided who lived in which house?

How do you think this house compares to other housing projects? Which housing projects have you visited or know people who live there? Which housing projects do you most like/dislike, and why?

7. In the future where would you like to live? Why there? Please describe the type of house you would like to live in, why that type of house?

In the future where would you like your children to live? Do you think they will be able to live there?

What do you think is your ideal house, if you could have any kind of house, please describe that house and why you would like it.

8. Conclusion:

Thank you very much for talking with us. Is there anything you would like to talk about? Do you have any questions about this interview or about my work in Aceh? Do you have any concerns? I will be here for a few more days, if you would like to talk again please approach me.

If you have any concerns or questions you can also contact me on this phone number (see Information Sheet).

May I return to talk to you some more about your housing experiences?

Thank you for your time and for talking with me.

1. Dikenalkan sendiri memakai surat informasi (lihat Surat Informasi)

Kalau ada penterjemah:

Saya mau kenalan [nama penterjemah]. Dia dari [nama tempatnya] dan dia bekerja di [nama tempat bekerjaan]. Hari ini dia akan membantu saya dan menterjemah wawancara ini. Apakah anda masih nyaman kalau [nama penterjemah] mengikuti dan menterjemah wawancara ini?

Kalau orang Aceh persetujuan kami akan mulai wawancara itu. Pertanyaan dalam wawancara itu dari rencana pertanyaan di bawa.

2. Pertanyaan kenalan:

Siapa nama anda?

Apakah ini rumah anda?

Tinggal di rumah ini dengan siapa?

Sudah berapa lama tinggal di rumah ini?

3. Membandingkan pengalaman dalam tempatnya sekarang dan sebelumnya:

Di mana tempatnya dan rumahnya sebelum tsunami?

Sudah berapa lama tinggal di sana?/Tinggal di sana selama hidupnya atau pindah ke tempat baru?/ Apakah anda tinggal di rumah lain?

Bagaimana pengalaman selama tinggal di sana? Anda atau keluarga anda bekerja di mana, sebagai apa? Apakah anda dekat atau jauh dari tempat bekerja, rumah-rumah keluarga, balai atau mesjid? Berapa lama kalau jalan kaki dari rumah anda ke tempat itu?

4. Tolong bilang pengalaman anda di rumah yang dulu:

Rumah dulu jenis apa: struktur, tata letak, ukuran, bahan, usia ... ?

Siapa membangun rumah dulu?

Dibangun rumah dulu berapa lama?

Bagaimana rumah dulu dirubah selama anda tinggal di sana?/Anda lakukan apa untuk merubah rumah dulu?

Di rumah dulu anda tinggal dengan siapa?

Bagaimana rumah dulu, nyaman atau tidak? Apa yang anda paling suka di rumah dulu? Apa yang anda tidak suka di rumah dulu?

Bagimana rumah itu kalau ada gampa atua banjir?

Rumah lain di kampongnya mirip rumah anda dulu ada berbeda? Bagaimana rumah lain mirip atau berbeda?

Apakah rumah lain jauh atau dekat rumah dulu? Apakah bisa lihat rumah lain dari rumah anda dulu? Kalau jalan kaki berapa minut dari rumah anda dulu ke rumah lain?

5. Tolong bilang pengalaman anda di rumah yang sekarang:

Bagaimana rumah sekarag nyaman atau ngak? Apa yang anda suka dan tidak suka tentang rumah ini?

Bagaimana anda sudah meruba rumah ini? Sudah lakukan apa ke rumah ini? Apa yang anda masih mau lakukan ke rumah ini?

Bagimana rumah ini berbeda dengan rumah rumah dulu?

Rumah ini jenis apa: struktur, tata letak, ukuran, bahan, usia…?

Siapa membangun rumah ini?

Dibangun rumah sekarang berapa lama?

Sekarang anda tinggal dengan siapa ?

And mau lakukan apa ke rumah itu, mau merubah apa?

Anda sudah lihat atau tahu tentang rumah LSM lain yang mana, bagaimana rumah-rumah itu? Yang mana anda suka atau tidak dan kenapa?

Bagimana/kenapa anda tinggal di rumah ini?

6. Boleh kita berbicara tentang pengalaman anda sesudah bencana pada tahun 2004?

Kalau boleh…

Bagaimana rumah dulu anda meruba sesudah gempa pada tahun 2004? Bagaimana rumah dulu meruba sesuda tsunami datang ke sini?

Pada waktu itu anda di mana, anda pergi ke mana sesudah tsunami?

Berapa lama tinggal di tempat pertama sesudah tsunami, bagaimana pengalaman anda di tempat itu?

Kenapa dan bagaimana anda pindah ke tempat-tempat baru sesudah bencana tsunami ? Anda menginap di mana dan dengan siapa? Bagaimana pengalaman anda di tempat tempat itu?

Anda masih ingat bertemu LSM yang mana? Bagaimana anda tahu tentang rumah LSM yang membangun rumah ini?

Anda sudah tahu apa tentand LSM proyek ini sebelum mereka mulai membangun rumah? Apakah anda bisa/boleh berkunjung proyek membangun rumah selama rumah ini dibangun? Kapan/bagaimana/kenapa?

Selama rumah ini dibangun bagaimana menurut anda? Apakah anda bisa ngomong dengan orang tukang atau orang dari LSM pada waktu itu? Siapa pillih anda akan tinggal di rumah yang mana?

Bagaimana menurut anda di bandingkan rumah ini dan rumah baru lain (di kampong ini dan di kampong lain)? Anda sudah berkunjung ke rumah baru yang mana atau kenal orang yang tinggal di rumah baru yang mana? Anda paling suka rumah baru yang mana, mengapa? Rumah baru yang mana yang paling jelek atau kondisi kurang baik?

7. Anda mau tinggal di mana di depan ? Di rumah jenis apa ? Kenapa di sana dan di rumah jenis itu ?

Anda mau anak anaknya tinggal di mana? Apakah mereka bisa tinggal di sana? Tolong bilang rumah jenis yang anda mau anaknya tinggal.

Apa yang rumah ideal anda, kalau bisa pillih rumah rumah saja? Kenapa suka rumah itu?

8. Terakhir:

Terima kasih atas berbicara dengan saya. Apakah anda mau berbicara tentang hal hal lain? Apakah anda punya pertanyaan tentang wawancara ini atau pekerjaan saya di Aceh? Apakah anda merasa cemas?

Saya akan di sini beberapa hari lagi kalau anda mau berbicara tolong approach saya. Boleh saya kembali ke sini untuk berbicara lebih lanjut dengan pengalaman rumah anda? Kalau anda merasa cemas atau punya pertanyaan kulang jelas boleh bertanya pada saya, anda bisa kontak saya lewat email atau lewat telepon (lihat Surat Informasi).

Terima kasih atas waktunya dan berbicara dengan saya.

Appendix 3: Glossary of Indonesian and Acehnese Terms

Indonesian	Acehnese	English explanation
Rumah	*Rumoh*	Standard house
Rumah Aceh	*Rumoh Aceh*	Traditional Acehnese House
Rumah Panggung	*Rumoh panggong*	House on stilts
Rumah permanen	*Rumoh permanen*	'Permanent house': a house with full masonry construction
Rumah semi-permanen	*Rumoh semi-permanen*	'Semi-permanent house': lower walls and floor are masonry and upper walls are a light weight material
Rumah sewa	*Rumoh siwa*	Rented house
Rumah induk/ Rumah besar	*Rumoh utama*	Main house/Big house
Rumah beton/batu-batu	*Rumoh Dindeng*	Cement house
Balai	*Balee*	Wooden platform on stilts
Barak	*Barak*	Long multi-family temporary wooden shelters
Rumah barak	*Rumoh barak*	Barrack shelter (smaller than the long multi-room barracks)
Rumah bantuan	*Rumoh bantuan*	Aid house
Barak bantuan	*Barak bantuan*	Aid barracks
Barak militar	*Barak tentra*	Military barracks for unmarried soldiers
Pavilyun	*Pavilion*	Pavilion: small wall separates this from the main house, for guests to stay in or for students to rent
Kedai	*Keude*	Small store
Kepala Desa	*Keuchik (Geuchik)*	Head of the village
Kampong/Desa	*Gampong*	Village
Pulang	*Wo*	To go home
Pulang kampong	*Wo gampong*	To go home to a person's original village
Gubuk	*Gobok*	Hut/shack: a small place to live made from wood or woven rattan
Pondok	*Balee*	Small house, cottage or cabin
Ruang	*Ruang*	Indoor social space
Ruang tamu	*Seuramoe*	Guest area
Ruang keluarga (untuk istirahat, dekat dapur)	*Ruang keluarga*	Family area, for resting, near to kitchen, may include eating area
Ruang musolah (hanya kalau rumah besar)	*Mushola*	Prayer room, only found in a large house
Hunian (Penghuni orang: occupier)	*Rumoh (ureueng)*	occupy/home/house/tempat tinggal
Ibu Rumah Tangga	*Ibu rumoh tangga*	Housewife
Rumah Tangga	*Rumoh tangga*	Household

Kartu Keluarga (KK)	*Kartu Keluarga*	Family (registration) Card
Kamar	*Kama, Bilek*	Room
Kamar mandi	*Kama manoe*	Bathroom/Washroom
Kamar tidur	*Kama éh*	Sleeping Room (Bedroom)
Dapur	*Dapu*	Kitchen
Halaman belakan:memasak air dan pohon untuk sayur (pohon belimbing, kacam panjang, bayam) dan tugas tukang		Backyard, for cooking activities and growing plants for vegetables such as starfruit, green beans and spinach and for handywork/craft work tasks
Halaman depan/taman untuk istirahat dan berkumpul dengan keluarga pada santai sore sore.		Front yard or garden for resting and gathering with family for resting in the afternoons
Teras (sore sebelum makan malam duduk di terrace dan ngomong-ngomong bersama)	*Teras/Seurambi*	Terrace (in the afternoons before the evening meal households sit on the terrace and talk together)
Sumur (mencuci pakaian sama piring dekat sumur)	*Mon*	Well (wash clothes and plates close to the well)
Tempat tinggal	*Tempat tinggai*	The place where you/I/we live
Tempat berlindung	*Tempat meusom*	Shelter under a tree (only a tree)
Memperlindungi (Rumah saya memperlindungi dari hujan dan panas tapi tidak untuk bencana)		To provide shelter (My house provides shelter from rain and heat but not from disasters).
Orang asli	*Urueng aseli*	Original people (at least five generations in one place)
Mesjid/ Masjid	*Seumejid*	Mosque
Musholla/ Menusaha	*Mushola*	Small building/room or pavilion for reading the Koran and other religious activities
Menumpang	*Tumpang*	To stay somewhere for a moment